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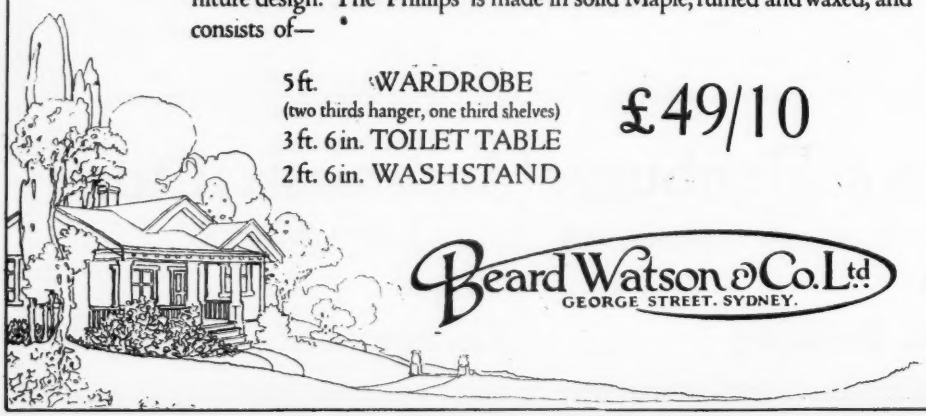

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EMBRYOLOGICAL SPECIMENS OF CLINICAL INTEREST.

II..

A CASE OF EARLY PRIMARY OVARIAN PREGNANCY.[1]

By **John I. Hunter, M.B., Ch.M.,**
Associate Professor of Anatomy, Sydney University.

In August, 1920, Professor J. T. Wilson presented to me for investigation a specimen which he had received from the Royal Prince Alfred Hospital, diagnosed as a case of ovarian pregnancy. I desire to express my great indebtedness to Professor Wilson for the opportunity he has given me to describe this interesting specimen. My thanks are also due to Dr. Joseph Foreman, Honorary Gynæcologist, Royal Prince Alfred Hospital, for having transmitted the specimen to the Medical School, Sydney University, in the first instance. As the specimen appeared in the catalogue of the Anatomy Department Collection, under the heading of *H153*, it will be referred to throughout this account under this designation.

My investigations have confirmed the clinical diagnosis and I regard the specimen as being one of primary implantation within the ovary. Moreover, the clinical history reveals the important fact that abdominal section was performed and the ovary removed twenty-four days after the last menstrual period, *i.e.*, four days before the beginning of the period which would almost certainly have been missed.

Microscopical examination revealed the presence of a growing blastocyst which was apparently less than three weeks of age; this indicated that fertilization occurred after the last menstrual period prior to operation.

The early stage of development to be seen in this specimen enhances its value. Whitehouse,(19) in describing a probable case of primary ovarian pregnancy, rightly remarked that: "The ætiology and pathology of the condition are still largely speculative and the true facts can be reached only by the comparison of authentic records and the very careful investigation of every specimen that falls to the lot of the individual worker." Many observers, *e.g.*, Norris,(13) Webster,(18) Young and Rhea(21) and Caturani(3) have emphasized the importance of obtaining early specimens to establish the validity of cases described as being examples of primary ovarian pregnancy. Not only is this the case, but also the site of fertilization and the method in which the ovum has become imbedded and the presence or absence of a decidual reaction within the ovary are questions which can be solved only by thorough investigation of early specimens. *H153* is a specimen

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on June 24, 1921.

of considerable value, in that it throws light upon these points. A full account of the histological appearances of the tissues and of the topographical relationships of the ovum to its surroundings, together with an account of the literature which bears upon this case, is nearing completion. Some of the conclusions based upon this wide survey are incorporated in the present account, the principal object of which is to establish this case as one of primary ovarian pregnancy. This will be done by an account of the clinical and operative findings and by a macroscopical and microscopical description of the specimen.

I.—Clinical History of H153.

The patient was under the care of Dr. Joseph Foreman, Honorary Gynæcologist of the Royal Prince Alfred Hospital, who directed that the ovary removed at operation should be examined for ovarian pregnancy. The following account was entered into the records of the Hospital by Dr. Foreman's house surgeon, Dr. Colin Anderson:

Name.—G.R., *æt.* 37, married five years.

Diagnosis.—Ovarian pregnancy.

Operation.—Right oöphorectomy, appendicectomy, curettage, July 3, 1914.

Date of Admission.—July 1, 1914.

Menstrual History.—Date of commencement, 12 years.

Type.—Twenty-eight days type, unaccompanied by pain.

Duration.—Three days; loses only a few clots.

Last Menstrual Period.—June 9, 1914.

Leucorrhœa had been occasionally present.

Children.—Full time, two; the age of the first was 4 years, the second 2½ years. No miscarriages.

Clinical Notes.—On admission the patient complained of pain low down in the stomach for the last twelve hours. She stated that she had had a similar attack one week previously. On that occasion she had a sudden attack of pain, accompanied by vomiting, rigors and perspiration. The attack lasted six hours. The patient felt faint during the attack. On June 30, 1914, she experienced the present attack. The pain was intense and doubled her up. Vomiting occurred and she felt faint and giddy; diarrhœa followed.

Physical Examination.—The general condition of the patient was good. Nothing abnormal was detected by examination of the mammæ and abdomen. Examination *per vaginam* revealed a lax vaginal outlet and smooth vaginal walls. The cervix was placed to the left of the mid-line and lifted up from the posterior wall. It was soft, slightly patent and tender. Tenderness prevented a satisfactory bimanual examination, but the fundus was located in the anterior fornix and to the left. On examination of the fornices a mass could be felt in the posterior fornix; tenderness was marked on palpation of the mass.

Operative Procedure.—Four days before the next period was due operation was performed. After curettage, the abdomen was opened in the median line and clotted blood was found within. The tubes were found to be normal. The right ovary was a mass of blood clot and it was deemed necessary to remove it. An angioclast crushed the mesovarium and the free tissue was removed with a knife. The base was sewn with catgut and covered with peritoneum. The appendix was removed in the usual manner. All the blood clot was removed from the pelvis and kidney pouches, the peritoneum was swabbed with sodium citrate solution and the abdominal wall closed.

There are several important features in this account. The ovary was removed without difficulty, on account of the presence of a well-marked mesovarium. The corresponding uterine tube was not removed, because of its healthy appearance. The outstanding clinical feature is, as above mentioned, the absence of any menstrual irregularity in the period prior to menstruation. This history is similar to that of the cases described by Lea (11) and Chiene. (4) In the former case twenty-one days separated the last menstrual period and the time of operation; in the latter twenty-five days. Well-preserved embryonic structures were not found in either of these cases; an accurate determination of their age becomes impossible. In Kerr's case, (10) which has been described in full by Bryce Teacher and Kerr, (2) more data are available to enable the exact size of the ovum to be measured: an embryonic papilla, though ragged, is present. In this case there had been amenorrhœa for seven weeks. Operation was performed twenty-one days after what would have been the first day of the period which failed to appear. By the Reichert-His formula, the beginning of gestation is obtained by adding twenty-eight days to the first day of the last period to appear. By this convention Bryce Teacher and Kerr calculated the age of the ovum as being between fourteen and twenty-two days. It is the youngest specimen of ovarian pregnancy hitherto described. The stage of development of the chorionic vesicle and embryonic rudiment pointed to the age as being from twelve to fifteen days. They conclude that growth and differentiation ceased, as a result of hæmorrhage from the ovary, seven days before operation. At this date symptoms of extra-uterine pregnancy were manifested. The largest measurements of the chorionic vesicle (1.35 cm.), which was collapsed, are slightly greater than that of *H153*, in which the maximum diameter was 10 mm.. These dimensions in each case are much in excess of what they would be if the chorionic vesicles had retained their normal shape; but they indicate that *H153* falls at the latest into the fourteen to twenty-two day period, making it probable that fertilization occurred after cessation of the last menstrual period.

II.—Macroscopic Description of the Specimen.

H153 consists of a complete ovary, measuring 4 cm.

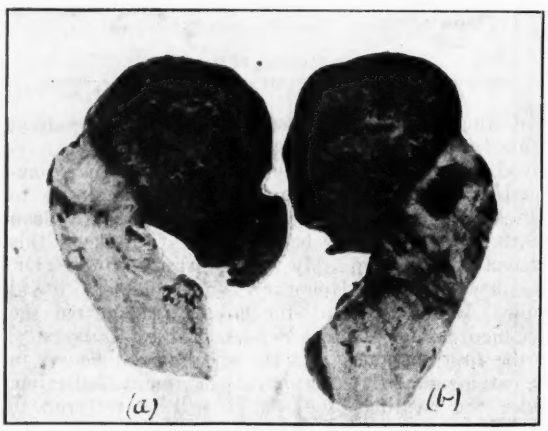

FIGURE I.
External aspect of the ovary. The specimen had been previously bisected. Both segments are shown.

supero-inferiorly and 1.5 cm. antero-posteriorly. On the posterior surface of the ovary, immediately adjacent to and extending beyond one pole, there is a dark, hæmorrhagic swelling of rounded contour. The

dimensions of this tumour are 3 cm. supero-inferiorly and 2 cm. antero-posteriorly. The specimen had been divided longitudinally in such a way that both external and sectional surfaces of the hæmorrhagic swelling and of the ovary were presented (Figures I. and II.). The swelling was definitely outlined. Of spheroidal shape, its surface was comparatively smooth, raised, however, at one point (Figure I.A and Figure II.A) into a somewhat irregular excrescence, which was obviously formed of blood clot. The main bulk of the swelling was also of this nature. The mass rested upon the surface of the ovary for the distance of 2.5 cm. adjoining one pole. In this area the ovary was seen to contain, when viewed on section (Figure II.), a *corpus luteum* somewhat flattened antero-posteriorly. This *corpus* filled the pole of the ovary. It measured 1.4 cm. supero-inferiorly and 0.8 cm. antero-posteriorly. A second *corpus* occupied the opposite pole of the ovary, but contained little lutein matter, while numerous Graafian follicles were seen scattered throughout the peripheral ovarian stroma (Figure III.). The *corpus luteum* adjacent to the tumour consisted of a central core, which was surrounded on three sides by a well-defined lamina of tissue. On the remaining side, which lay opposite the hæmorrhagic swelling, the lutein lamina became extremely indefinite. A naked eye examination of both sectional surfaces revealed the fact that the hæmorrhagic swelling was encapsulated by a thin layer of tissue continuous with the stroma of the ovary. This capsule of ovarian tissue was 1 mm. thick where it joined the ovarian stroma, but is gradually thinned out until it could no longer be recognized macroscopically as being separate upon the surface of the hæmorrhagic mass.

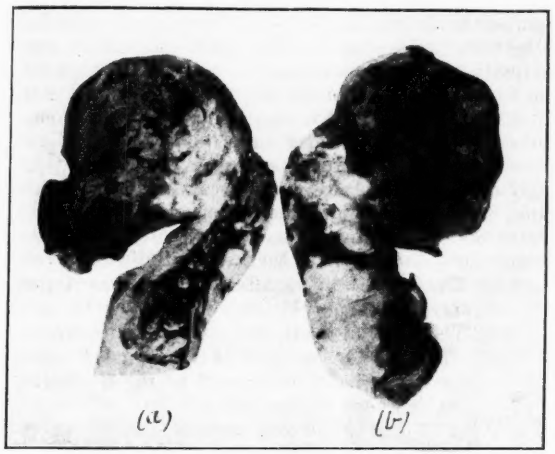

FIGURE II.
Sectional surfaces of H_{153}. Photograph obtained before the serial sections were taken.

Placed eccentrically in the blood clot is a distinct cavity, which is of elongated shape (Figure IV.). Under a stereomicroscope, the blood clot was investigated in the vicinity of this cavity. In the portion shown in Figure I.A, from which a few sections for diagnostic purposes had previously been made, villi were to be seen in section, while here and there, where portions of the blood clot had crumbled away, branching villi could be seen stereoscopically (Figure V.). These villi, of a maximum length of 4 mm., could be traced towards the tissue bounding the cavity, which was evidently, therefore, the cavity of a chorionic vesicle.

FIGURE III.
Photograph of the block after cutting serial sections. The chorionic vesicle is still visible. The *corpus luteum* adjacent to the implantation cavity is plainly seen.

III.—The Criteria of Primary Ovarian Pregnancy, with Special Reference to the Fulfilment of the Requirements by H153.

Criteria for the diagnosis of primary ovarian pregnancy were postulated by Cohnstein as early as 1850, which, according to Young and Rhea, were inadequate. Spiegelberg,(16) in 1878, demanded that a specimen must satisfy the following four conditions in order that the case may be regarded as a positive one of primary ovarian pregnancy:

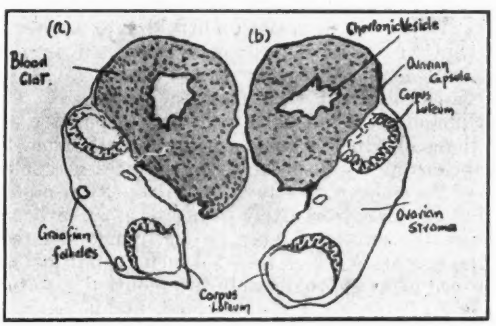

FIGURE IV.
Line diagram obtained from the photograph shown in Figure II.

(1) That the tube on the affected side must be intact.
(2) That the fœtal sac should occupy the position of the ovary.
(3) That the sac should be connected to the uterus by the round ligament of the ovary.
(4) That ovarian tissue must be found in the wall of the sac.

Williams(20) modified the last condition by stating

that ovarian tissue must be found at several different sites in the wall.

Jacobson(8) added two further requirements:

(1) That the fœtus should be visible in the cavity of the ovum, thus recalling the statement of Bland Sutton,(1) made in 1900, who, like Mayo Robson,(15) regarded the conditions of absolute proof to be that of an early embryo in its membranes, contained within a sac within the ovary.

(2) That an organic connexion between the fœtus and the ovary must be demonstrated.

The second condition is sufficiently covered by the requirement laid down by Williams.

The first of the two demands, moreover, is unwarranted, because development of the embryo is often

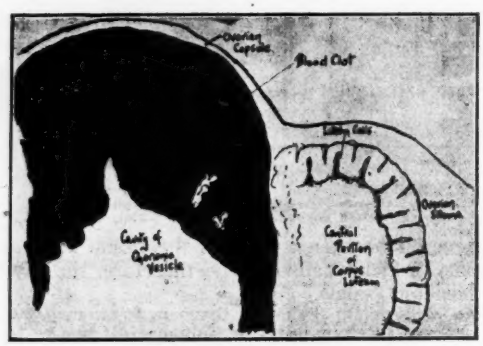

FIGURE V..
Line diagram of a photograph showing the ovarian stroma encapsulating the hæmorrhagic swelling which contained the chorionic vesicle. The villi shown were quite free.

retarded in its abnormal environment and, indeed, is often not to be found. In Holland's case,(7) for instance, in which the gestation had been of six weeks' duration, the fœtus had become converted into an amorphous mass. No embryo was found in 24 out of 43 cases collected by me from the literature. This series includes cases usually regarded as positive and only those in which I could satisfy myself, from the descriptions at my disposal, as to the presence or absence of the embryo. Kelly and McIlroy(9) also point out that the embryo is likely to perish at an early age, although the envelopes may go on living. In their case the operation, which revealed such a condition, was performed after approximately two months' gestation. Moreover, the normal development of the embryo, according to Freund and Thomé,(5) depends upon the size of the branches of the ovarian vessels in the region of the chorionic vesicle and they regard the vicinity of the hilum as the most favourable site for implantation, on account of the larger vessels situated in this region.

Heincke (quoted by Caturani) adds the presence of placental tissue within the ovarian tissue as an additional criterion.

Norris(13) emphasizes the importance of examining the corresponding tube, to exclude cases of tubal abortion. He states: "The tube should not only be intact, but should be microscopically free from any evidence of gestation." Chiene(4) disagrees with this condition and maintains that the removal of the corresponding tube is not clinically essential nor desirable. In his case he left the tube, on account of the condition of the patient, and Lockyer(12) accepts it as a positive case of primary ovarian pregnancy.

As Caturani remarks: "It is rare that all the criteria are present in the one case." The tube was not removed in the case of *H153*, as the surgeon regarded both tubes to be normal. The chorionic vesicle, covered with villi and possessing an embryonic rudiment, was found to be contained, however, in a blood clot, which was surrounded by a capsule of ovarian stroma. The ovary and its swelling were quite free from the tube. At operation the specimen was obtained by applying an angioclast to the mesovarium, it being found to be free from surrounding structures. The requirements demanded by Spiegelberg, Williams, Heincke and Jacobson are therefore fulfilled, *viz.*:

(*i.*) The tube on the affected side was intact (macroscopically).

(*ii.*) The fœtal sac is in the position of the ovary.

(*iii.*) The tumour is part of the ovarian mass, the ovary being connected to the uterus by the ligament of the ovary.

(*iv.*) The ovarian stroma encapsulates the chorionic vesicle and blood clot.

(*v.*) Chorionic villi are abundantly present.

(*vi.*) An embryonic rudiment is visible within the cavity of the ovum.

Although it has been impossible to examine the tube microscopically, tubal abortion is not difficult to exclude. Firstly, the ovarian stroma distinctly encapsulates the chorionic vesicle and surrounding blood clot and, secondly, a secondary implantation upon the ovary after tubal abortion, without involvement of surrounding structures, is unlikely.

In Mademoiselle Van Tussenbroek's classical case,(17) the description of which in 1899 did so much to overcome the scepticism of British gynæcologists in regard to the possibility of the occurrence of cases of true ovarian pregnancy, the tube was not subjected to microscopical examination. Editorial comments in the *British Medical Journal*, 1900 (I., p. 922) upon this case refer to it as proving that the possibility of occurrence of ovarian pregnancy is a fact no longer to be denied. The existence of a considerable mesovarium and the absence of adhesion are facts of importance in arriving at this conclusion. These desiderata are present in the case of *H153*. Bryce Teacher and Kerr(2) state, in speaking of Van Tussenbroek's specimen, that: "The Fallopian tube was in no way attached to the ovary and, being normal, was obviously not the primary seat of implantation of the ovum."

The possibility does exist, however, that the case is one of impregnation of an ovum within the abdominal cavity, the fertilized ovum then implanting itself upon the surface of the ovary and burrowing into it sufficiently deeply to develope a thin external capsule of ovarian stroma. Spiegelberg(16) refers to such cases as epiovarian and regards them as examples of abdominal pregnancy. If this be such a case, we must suppose that the ovum, fertilized or unfertilized, reached the abdominal cavity and, after a period of five to seven days from fertilization, reinvaded the ovary opposite the *corpus luteum*. Hewetson and Lloyd(6) adopt

this as a possible explanation in their similar case, stating, however, that adhesions retained the fertilized ovum *in situ* and that it burrowed into the ovary just above the site of exit. In *H153*, particularly, where no adhesions are to be found, it is far more likely that the sperm passed into the Graafian follicle or to its mouth to fertilize the ovum and that the fertilized ovum became enclosed in the blood clot forming at the opening of the follicle. Having become imbedded in the connective tissue surrounding this opening, the ovum, as development proceeded, would be found between the *corpus luteum* deeply and a thin capsule of ovarian stroma superficially. This is the situation found in *H153*. Bryce Teacher and Kerr, in explaining the presence of the vesicle in their case, in an identical situation to that occupied by *H153*, regard the possibility of engrafting from without as being extremely unlikely to occur. They believe that the fertilized ovum was first within the follicle and then migrated through its wall, when about 0.2 mm. in diameter, to reach the superficial layer of connective tissue. I am unable to accept this explanation in the case of *H153*, on account of the appearance of the lamina of the *corpus luteum* adjacent to the implantation cavity. Here there is no necrosed area, such as was found in the case of Bryce Teacher and Kerr, uniting the interior of the *corpus luteum* with the area of implantation. The lamina adjacent to the latter is imperfectly developed and the appearances, as seen microscopically, favour invasion from without rather than an impairment resulting from the migration of the fertilized ovum through it from within.

IV.—Descriptions of the Sections.

The following description is the combined result of examination of incomplete sections 10 μ in thickness and complete sections 40 μ to 50 μ in thickness. The series was stained with carmalum. Additional sections were stained with eosin, hæmatoxylin and eosin, Gram's stain and phospho-tunstic acid-hæmatoxylin. The sections so stained reveal that the chorionic vesicle, surrounded by villi, lies within a blood clot, which is surrounded by a capsule of ovarian stroma. This stroma is ruptured at one site for the extent of 9 mm.. Blood clot projects from this area and extends in every direction upon the surface of the capsule, which is fragmentary in the region of the site of actual rupture for some millimetres. The capsule is everywhere composed of fibrous tissue, which contains some highly cellular areas. Blood vessels are seen in section, some of which have incomplete walls. The hæmorrhage into the peritoneal cavity has, in this case, been the result of rupture of the ovarian envelope, caused by over-distension. As Lea(11) points out, hæmorrhage in ovarian pregnancy may be due to another cause, especially when the implantation cavity is near the surface, *viz.*, the syncytial elements may perforate the ovarian capsule and so allow the intervillous blood to escape. This is the explanation of the hæmorrhage in cases described by Boesebeek,(24) Norris and Mitchell,(26) Banks,(25) Freund and Thomé.(5)

Chorionic Villi and Their Relationship to the Maternal Tissues.

When the diagnosis was being investigated, the specimen was submitted to Professor D. A. Welsh, Professor of Pathology of the Sydney University. He reported chorionic villi to be present in the swelling caused by the blood clot. These villi, I find, are to be seen on all aspects of the collapsed chorionic vesicle. They are, however, especially abundant opposite the junction of the stroma of the pole of the ovary and the capsule of the ovarian tissue. A similar distribution has been described by Van Tussenbroek,(17) Hewetson and Lloyd,(6) Bryce Teacher and Kerr.(2)

The villi consist of a loose connective tissue core, composed of elongated spindle-shaped cells with well-defined oval nuclei. This is continuous with the tissue (extra-embryonic mesoderm) which forms the wall of the chorionic vesicle. Within some of the villi blood vessels are to be seen containing nucleated red blood corpuscles. These may also, in some instances, be traced to the wall of the chorionic vesicle. No blood vessels are to be seen in many of the villi which are remote from the chorionic vesicle.

The usual double covering of the connective tissue core is present (Figure VI.). The inner layer or

FIGURE VI..
Villi within the intervillous space, where a barrier zone of cells still forms a bounding outer layer (× 75). Note the cells of Langhans's layer and plasmodi-trophoblast.

cyto-trophoblast consists of a distinct line of cubical cells—the layer of Langhans. In the outer layer no cell boundaries are distinguishable, *i.e.*, this layer constituted the syncytium or plasmodi-trophoblast. Irregular plasmodial processes are also present and clumps of plasmodial processes are to be seen against the extravasated blood. The villi nowhere reach the ovary or the capsule of ovarian stroma.

Laminated blood clot containing fibrin separates the villi on the external surface of the chorionic vesicle from the capsule (Figure VII.). In this clot many of the villi on this aspect are in a state of degeneration and are undergoing leucocytic infiltration. Where the villi are more abundant, they occupy intervillous spaces and the blood forms, not a laminated clot, but a loose mass. The laminated clot surrounds these spaces and here and there is seen breaking into them. The outer boundary of the intervillous space consists of strands of fibrin containing large, deciduа-

like cells, which form a barrier zone between the maternal tissues and the implantation cavity.

I regard these cells as being of connective tissue origin. They have apparently become isolated from the ovarian stroma in the following manner: The blood from the intervillous space has broken through its outer bounding layer and has then invaded the ovarian tissue. This blood infiltration has torn away the deepest layer of cells from the main bulk of stroma and this has led to a separation of the deep necrotic layer of connective tissue from the remaining stroma by a blood-filled interval, 2.5 mm. in thickness. There are, therefore, five zones in some situations (Figure VII.) between the cavity of the

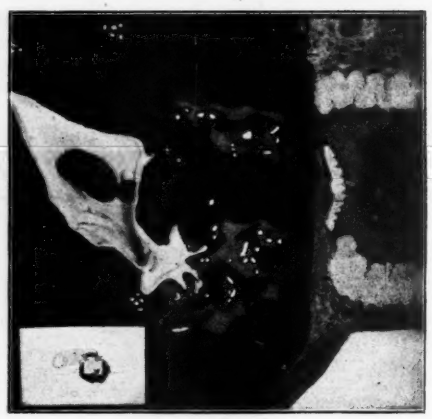

FIGURE VII.
Photograph of a wax reconstruction of the chorionic vesicle of H_{153} (twenty times the size of the original).
The chorionic vesicle is compressed and elongated. It is lying in a blood space which contains villi. In some situations the villi are within a true intervillous space bounded by a decidual zone. Elsewhere blood infiltrating the stroma from the intervillous space has re-invaded this space from without. The hæmorrhagic swelling is enclosed by a capsule of ovarian stroma. The *corpus luteum* is separated from the implantation cavity by a layer of connective tissue. The inset shows for comparison the diagram of one of the sections used in reconstruction, drawn to scale. The whole square represents the area modelled.

blastocyst and the surface of the ovary. They are: (*i.*) the capsule of ovarian tissue, (*ii*) the blood space in the stroma, (*iii.*) the barrier zone of stroma, (*iv.*) the intervillous space and (*v.*) the wall of the vesicle. That this is the correct interpretation of the nature of these layers receives confirmation, in that the so-called inner barrier zone becomes continuous with the main bulk of the stroma of the ovary for the extent of a few millimetres in some sections. As already mentioned, the barrier zone consists of a definite layer of decidua-like cells. They are large cells, pear-shaped, oval or elongated in shape. Placed mainly concentrically around the intervillous space, they may be placed obliquely and even at right angles to its boundary. The cytoplasm is stained well and uniformly with carmalum, while the nucleus is large and conspicuous, staining darkly with the same dye. Hæmatoxylin lightly stains the cytoplasm and the nucleus is stained deeply by it in some of the cells. In others it is large, oval and more faintly stained. Many areas show groups of cells extending from this layer through the blood, within the stroma, towards the main bulk of maternal tissue. However, in most situations, a thick fibrin layer is usually to be found separating these cells from the stroma. In such positions the stroma may be highly cellular and vascular, but there are no large cells and the tissue is not necrotic. However, where the barrier zone and ovary are continuous, these large cells are found within the stroma in patches, as well as along the boundary of the intervillous space. Transition stages are here to be seen between the large oval, pear-shaped and elongated cells and the fusiform connective tissue cells, as noticed in Hewetson and Lloyd's case.(6) These facts—the general appearance of the cells, the presence of transition forms, the continuity of the barrier zone and ovarian stroma—indicate the origin of these cells from the ovarian stroma. This tissue forms, in effect, in *H153* an ovarian decidua which, though not extensive, is nevertheless quite definite.

Williams(20) and Norris,(13) who made a survey of the literature upon this subject, both concluded that the ovary does not take part in a definite decidual reaction. My own analysis would have justified their conclusions, if I had been compelled to depend upon the descriptions so far forthcoming. I have found that twenty-one observers specifically mention that there is no decidual reaction, while only six admit the possibility of its presence. Amongst the former, however, some writers describe decidua-like cells. Bryce Teacher and Kerr admit that many of these may be maternal in origin. On the other hand, those who admit that decidua cells are present, state that only an attempt at decidual reaction is discoverable (*e.g.*, Caturani).

The decidua-like cells have been described as being wholly trophoblastic. In these instances the cells have appeared in groups and the conclusion is justifiable. In *H153* this explanation is inadequate, on account of the well-defined zone formed and the presence of similar cells in the ovarian stroma remote from villi. The barrier formation also precludes the possibility of their being interstitial cells of the ovary. I believe, however, that *H153* illustrates a retrogressive phase in regard to the development of decidua cells. The relationship of the large barrier cells to the fusiform connective tissue cells is best seen in those sections in which, at one point, the barrier cells are directly continuous with the ovarian stroma. Elsewhere blood has infiltrated the stroma. Over a considerable area adjacent to the ovary and opposite each pole of the chorionic vesicle this blood has stripped away the barrier layer, which remains intact for considerable distances as the outer boundary of the intervillous space. The hæmorrhage into the stroma has led, however, to its rupture at various points, due to communications occurring between the blood within the stroma and the intervillous blood (see Figure VII.). Opposition the external surface of the vesicle it has been already shown that the barrier layer has been broken up everywhere into disconnected groups of cells in this way. Had this process continued until the intervillous space had become continuous with the blood space within the ovarian stroma, only a few isolated cells would have been found.

Decidua-like cells have also been regarded as being lutein cells. Van Tussenbroek,(17) as first thought that decidua cells surrounded the implantation cavity; but in a later communication she definitely states that these cells were lutein cells. A description of the *corpus luteum* and of the relationship of the implantation cavity to it is sufficient to dispel all doubt in regard to this source of error in the present case.

The Corpus Luteum.

A *corpus luteum* corresponding to the age of development of the blastocyst is situated within the ovary adjacent to the implantation cavity. This is shown in the reconstructed wax model, a figure of which is reproduced (Figure VII.). It consists of the usual plicated lamina of large, lightly staining polygonal cells with faintly staining nuclei. These lutein cells form a definite continuous lamina, which is folded to form the wall of the *corpus luteum* on three aspects only. It is infiltrated by connective tissue septa from the surrounding connective tissue theca and these septa are already vascularized. Within the lamina of lutein cells there is a delicate connective tissue layer enclosing the central blood clot. Between this blood clot and the implantation cavity there is a second group of lutein cells which is not connected with that already described. These cells also constitute a plicated lamina, which is only approximately a third of the thickness of the more extensive layer. The same delicate connective tissue is present between the lutein cells and the central blood clot here as elsewhere. Externally an uninterrupted layer of connective tissue separates this lutein lamina from the blood space surrounding the chorionic vesicle (implantation cavity). This layer contains decidual cells. Beyond each end of the lamina the external and internal layers of connective tissue become continuous with one another. Lutein cells are absent over considerable areas of these uniting bridges of connective tissue.

H153 is an addition to that class of ovarian pregnancy in which the chorionic vesicle lies wholly outside the *corpus luteum*. Five only of twenty-four specimens have been described of this nature, *viz.*, the specimens of Hewetson and Lloyd,(6) Thompson,(22) Webster,(18) Franz(23) and Bryce Teacher and Kerr.(2) In the majority of cases, therefore, lutein cells entered into the formation of the wall of the implantation cavity, which has been taken as evidence of intrafollicular imbedding. In such cases the nidus may consist of the thin layer of connective tissue internal to the lutein lamina. Bryce Teacher and Kerr favour the view that imbedding is always primarily intrafollicular and that implantation external to the *corpus luteum* is due to migration through its wall and secondary implantation in the surrounding connective tissue. These authors admit, however, another possibility, that the ovum may have been arrested between the lips of the wound in the follicle, becoming imbedded in the vascular stroma in its neighbourhood outside the developing *corpus luteum*. They conclude that their young specimen favours the view that migration has occurred from the interior of the follicle, because a cone of necrosed tissue passes from the interior of the follicle towards the implantation cavity. A study of *H153*, which is in at least the same age period as Kerr's specimen and in which the relationship of the chorionic vesicle to the maternal stroma is better preserved, has convinced me that it is possible for the fertilized ovum to become primarily implanted in the connective tissue bounding the opening of the ruptured follicle. This is the alternative explanation dismissed by Bryce Teacher and Kerr. But in *H153* a thin lutein lamina, separated at each end from the main lutein layer, is formed on that aspect of the *corpus luteum* which adjoins the implantation cavity. The development of the entire layer is impaired but no single definite core of necrosed tissue is present, as in their case. I regard, further, the primary imbedding of the fertilized ovum in the connective tissue around the mouth of the follicle as being a more adequate explanation of the specimens described by Hewetson and Lloyd(6) and by Whitehouse,(19) cases in which the *corpus luteum* was found to be intact. Bryce Teacher and Kerr explained, further, that once secondary imbedding had occurred in the connective tissue outside the follicle, the chorionic vesicle, with subsequent development, would again invade the *corpus luteum*. Now, if the imbedding were primarily extrafollicular, this might also occur. It thus appears that many cases described as follicular, the fertilized ovum may have been imbedded in the first instance in the thecal connective tissue and not in the follicle at all. It is certain that Van Tuessenbroek's definition (quoted by Caturani) that, "ovarian pregnancy means pregnancy in a Graafian follicle," will have to be replaced by a more comprehensive statement. For, clearly, primary ovarian pregnancy may occur external to the follicle, invasion of the *corpus* occurring only in later stages of development. The specimen herein described presents features which throw light upon the subject of imbedding of the ovum in ovarian pregnancy which make it approach to the desideratum mentioned by Ray(14) in the most recent issue of *Surgery, Gynecology and Obstetrics* as being "an earlier vesicle implanted in the gland than any thus far described." And, like the only other specimen described of corresponding age, the imbedding is extrafollicular and the *corpus luteum* does not take any direct share in forming the wall of the implantation cavity. It would appear unnecessary to assume that in the early stage the fertilized ovum need become implanted or enclosed within the follicle at all.

References.

(1) Bland Sutton (1896): "Surgical Diseases of the Ovaries and Fallopian Tubes," p. 35.

(2) Bryce Teacher and Kerr (1908): "Contribution to the Study of the Early Development and Imbedding of the Human Ovum," Glasgow.

(3) Caturani, M. (1914). "Ovarian Pregnancy, with the Report of a Case," *Amer. Journ. Obstet.*, LXIX., pp. 409-478.

(4) Chiene, G. (1913): "Ruptured Very Early Ovarian Pregnancy." (1) *Obstet. Trans. Edin.*, XXXVIII., p. 96. (2) *Edin. Med. Journ.*, X., p. 316.

(5) Freund and Thomé (1906): (1) *Virchow's Archiv.*, Bd. CLXXXIII., Heft. I.. (2) Quoted by Kelly and McIlroy.(10)

(6) Hewetson and Lloyd (1906): *Brit. Med. Journ.*, Vol. II., p. 568.

(7) Holland Eardley (1911): "A Case of Ovarian Pregnancy, Probably Bilateral," *Journ. Obstet. and Gyn. of Brit. Emp.*, XX., pp. 295-298.

(8) Jacobson, S. D. (1908): "Contribution to the Science of Medicine and Surgery," *New York Post-Grad. Med. School and Hospital*, p. 241. (2) Quoted by Young and Rhea.(22)

(9) Kelly and McIlroy (1906): *Journ. of Obstet. and Gyn. of Brit. Emp.*, IX., p. 389.

(10) Kerr, J. M. M. (1908): *Proc. Roy. Soc. Med.*, Vol. I., No. IX., p. 268.

(11) Lea, A. W. W. (1910): "A Case of Ovarian Pregnancy with Diffuse Intrapertioneal Hæmorrhage," *Journ. Obstet. and Gyn. of Brit. Emp.*, XVIII., p. 182-187.

(12) Lockyer, Cuthbert (1917): "Two Cases of Primary Ovarian Pregnancy," *Proc. Roy. Soc. Med.*, Vol. X., No. VIII., p. 158.

(13) Norris, C. C. (1909): "Primary Ovarian Pregnancy and the Report of a Case Combined with Intrauterine Pregnancy," *Surg., Gyn. and Obst.*, Vol. IX., p. 123.

(14) Ray, H. M. (1921): "Primary Ovarian and Primary

Abdominal Pregnancy: Their Morphological Possibility," *Surgery, Gyn. and Obstet.*, Vol. XXXII., No. 5, p. 437.

(15) Robson, Mayo (1902): (1) "Primary Ovarian Gestation," *Tran. Lond. Obst. Soc.*, XLIV., p. 215. (2) *Brit. Med. Journ.*, Vol. II., p. 1447.

(16) Spiegelberg (1898): *Arch. f. Gyn.*, Bd. VIII., p. 73. (2) "T.-Book of Midwifery," *New Sydenham Soc. Trans.*, p. 429.

(17) Van Tussenbroek, Catherine (1899): (1) *Annales de Gyn. et Obst.*, December, 1899. (2) Quoted by Kelly and McIlroy(9) and Bryce Teacher and Kerr.(2)

(18) Webster, J. C. (1904): "Study of Ovarian Pregnancy," *Amer. Jour. of Obst.*, L., p. 28-50.

(19) Whitehouse, B. (1910): "Remarks on a Case of Probable Ovarian Pregnancy," *Brit. Med. Journ.*, Vol. I., p. 1276-1280.

(20) Williams, Whitridge (1917): "Text-Book of Obstetrics."

(21) Young and Rhea (1911): "Ovarian Pregnancy: Report of a Case," *Boston Med. and Surg., Journ.*, CLXIV., p. 264.

(22) Thompson, J. F. (1902): "Ovarian Pregnancy, with the Report of a Case," I., pp. 1-15. (2) Quoted by Kelly and McIlroy.(9)

(23) Franz (1902): Quoted by Bryce Teacher and Kerr.(2)

(24) Boesebeek (1904): Quoted by Norris(13) and Williams.(20)

(25) Banks, A. G. (1912): "A Case of Ovarian Pregnancy," *Journ. Obst. and Gyn. of Brit. Emp.*, XXI., p. 216.

(26) Norris and Mitchell (1908): "Primary Ovarian Pregnancy, with the Report of a Case," *Surg., Gyn. and Obstet.*, May, p. 460.

Reviews.

VENEREAL DISEASES.

Dr. J. E. R. McDonagh has written a book on his conceptions of venereal diseases.[1] A decade ago he asked the medical profession to revise its views concerning the parasite of syphilis, but the medical profession was unkind or obstinate; at all events, few syphilographs to-day attach any importance to his description of a life cycle of the alleged *Leucocytozoon syphilidis*, as published in his "Biology and Treatment of Venereal Diseases." In the new work, he gives a mild recapitulation of the life cycle of this parasite, but apparently ignores the fact that no one has confirmed his observations and that no author of a text-book has included a serious reference to his work. He starts badly, by giving a history of syphilis which is almost a paraphrase of the account written by Iwan Bloch for D'Arcy Power's classical "System of Syphilis." Moreover, he neglects to acknowledge the source of his information.

The stages of syphilis are given as (*i.*) the primary, (*ii.*) the generalization, (*iii.*) the latent and (*iv.*) the recurrent. Later in the book, when dealing with the treatment of the disease in its various stages, he refers to the lesions and symptoms of the latent stage. The term "latent" is usually employed to signify the persistence of a disease without any manifestations. The appearances of the primary stage are well described and a salutary warning is given of the danger of relying on laboratory investigations for the purpose of making a diagnosis in this stage. The diagnosis must depend on clinical evidence and experience. His account of the secondary eruptions is good. The author deserves praise for this part of his work, which is admirable. He avoids to some extent the conventional system of classifying syphilitic lesions. He points out that all, or nearly all, the multiform lesions develope under the influence of their environment, from the macule and the papule. The differential diagnosis from other skin rashes is also excellent.

When he turns his attention to the manifestations of syphilis in the lympho-poietic and hæmo-poietic systems, in the bones and joints, in the mouth and throat, in the bronchi and lungs, in the thyreoid and in the genito-urinary tract, he becomes discursive and somewhat vague.

That part of the book which contains the author's views on syphilis of the nervous system, demands special attention. In introducing this subject, he indulges in a great deal of interesting, but shadowy, hypothesis on the subject of the biology of syphilis of the nervous system and on the influence of treatment on its incidence. He apparently recognizes this, for he writes: "These views are not hypothetical, but views which I have been forced to hold from my clinical experience of several hundred cases." The views, however, depend on other very complicated and novel bio-chemical and pathological hypotheses, the majority of which are illusory. No attempt is made to explain the views, while reliance is apparently placed on his dogmatic, but unsupported, statement that the facts are as he describes them. It is a pity that the author assumes this attitude. He would probably have received a more sympathetic hearing had he adopted argument instead of plain assertion.

He is of opinion that the treatment of general paralysis of the insane and of *tabes dorsalis* is useless. He therefore concentrates his attention to the prevention of the involvement of the central nervous system. In this connexion he supports the practice of performing lumbar puncture and of draining the cerebro-spinal fluid, subsequent to an intravenous injection of one of the medicaments advocated, in order to promote filtration of the drug into the theca.

The author puts forward his own view of the interpretation of Colles's law. The mother cannot be infected, because she has already contracted the disease. The majority of authorities deny the truth of this assumption. Dr. McDonagh draws attention to the greater seriousness of syphilis in women than in men, especially during the child-bearing period. This heightened susceptibility seems to disappear after the menopause. He explains the frequent postponement of gummatous lesions until after the change of life to this circumstance. Here, again, the author indulges in hypothetical statements, without the support of argument based on acceptable evidence. Closely associated with syphilis in women is the subject of congenital disease. It is usually held that congenital syphilis gives rise to a simple erythema on the buttocks. The author claims that a macular rash on the face and papules on the palms and soles are pathognomonic.

The chapters on treatment include descriptions of all the compounds commonly used and of many uncommonly used in the treatment of syphilis. Among the latter is intramine, about which he is extremely enthusiastic. This drug has proved very disappointing to other clinicians who have given it a trial on his recommendation. He describes it as not merely complementary to arseno-benzol, but as an infallible antidote to all the toxic manifestations of arsenic and mercury. In dealing with the toxic manifestations of mercury, he issues statements in an authoritative manner. The following example may be cited. A patient suffering from acute mercurial poisoning, with gangrenous stomatitis, hæmorrhagic diarrhœa and complete anuria of seven days' duration, following the intravenous injection of 10 c.cm. of a 5% emulsion of colloidal mercury (*i.e.*, 0.5 gramme of mercury), recovered completely. There was no albumin in the urine eighteen days later. This experience was repeated in the case of another patient who had received two injections of the same dose with an interval of three days (*i.e.*, 1 gramme of mercury). Three other patients suffered less marked symptoms after having received smaller doses, but all recovered completely and the albumin disappeared from the urine within eighteen days. This truly remarkable result was brought about by the intravenous injection of colloidal iodine and intramuscular injection of intramine.

Following the record of these wonderful events, this extraordinary statement appears: "In all these five cases the syphilitic manifestations disappeared in a few days and some of the lesions were such as would not have vanished with six or more injections of arseno-benzene." Presumably the word "some" implies more than one. Is Dr. McDonagh accustomed to meet in a series of five patients more than one with lesions which would resist six or more injections of arseno-benzol? That such cases exist is not denied, but that two or more should have occurred in a series of five is a miracle even more astounding than the complete rehabilitation within eighteen days of the renal tissue after the severe intoxication described.

When relatively minor statements of this kind are made in dogmatic language, the reader is led to suspect that other, larger statements made in the same manner, without ade-

[1] Venereal Diseases: Their Clinical Aspect and Treatment, with an Atlas of 106 coloured and 21 half-tone illustrations, by J. E. R. McDonagh, F.R.C.S.; 1920. London: William Heinemann (Medical Books), Limited; Crown 8vo., pp. 419. Price, £3 3s.

quate evidence in support, may be inaccurate. It would seem that the greater number of the author's hypotheses, presented without any attempt at proof beyond the vague and easy phrase "in my experience," are probably incorrect.

In his discussion of the treatment of congenital syphilis, the author remarks "that the intramuscular route almost invariably causes necrosis" in infants. This is a sweeping statement. The experience in Australian hospitals, a very extensive one, of intramuscular injections of 0.005 to 0.01 gramme in one or two cubic centimetres of fluid, goes to show that only rarely is an abscess caused; this is usually ascribed to contamination of the needle track with fæces, owing to the proximity of the anus to the site of injection. In the vast majority of instances, no ill-effects have followed; but, on the contrary, the injections have been of very great benefit and many infants born with lesions which would have almost certainly led to death, have been saved.

In the treatment of soft sore and of gonorrhœa, the author claims that intramine is of inestimable value. This drug would appear to be a "Jack of all trades" among the specific remedies. The author has some orthodox things to say concerning gonorrhœa, subsidiary venereal diseases, the neurasthenic effect of these diseases, the question of marriage in its relation to venereal disease and so on, and some unorthodox things to say concerning an alleged relationship between syphilis and malignant disease.

The printing and paper are excellent, the illustrations are numerous and in many cases of high quality and the get-up of the book is admirable.

TUBERCULOSIS.

In "Practical Tuberculosis for the General Practitioner,"[1] Dr. Herbert F. Gammons has given to the medical profession a book that should be very valuable for every-day work. Though not voluminous it embodies many years' sanatorium experience and covers the important points of this subject. Naturally each question is but briefly, but faithfully and concisely, discussed and the advice given shows sound common sense.

The book opens with an elementary account of the history, cause and predisposition towards tuberculosis, which call for little comment. Early diagnosis is insisted on and the means by which this knowledge can be obtained before extensive damage has been done, is well demonstrated. Due consideration is urged for the commonly supposed unimportant symptoms and warning given against waiting for the supposed cardinal symptoms, which appear so often only late in the disease, if at all. The necessity of a proper estimation of the toxic condition, if mistakes are to be avoided, is fully explained. Indeed, this portion of the book supplies information of great value which should be valuable in ordinary practice.

A simple discussion of the physical signs, pathology and classification is dealt with along orthodox lines.

As the author is a great believer in sanatorium methods, the treatment recommended is simple. It depends mainly on rest, fresh air, food, sunshine and optimism. Both rest and exercise in the past have been misused and the cause of failures, but great care has been taken to discuss them together, so that desired results may be obtained. Drugs are discounted, though many are used in special cases. This is undoubtedly satisfactory for sanatoria, but for the practitioner a discussion of suitable drugs would have been helpful. Nevertheless, the advice is otherwise sound. Segregation of patients in the advanced stages is advised. We note with satisfaction that even in the late stages the author disapproves of the use of morphine. In a later chapter he impresses on the reader the importance of proper daily habits for consumptives and the vital need for cleanliness in all details of life.

The treatment recommended for complications does not call for comment, but we would have expected from such a sanatorium authority a stronger protest against surgical interference for simple enlargement of glands and fluid in cavities, whether pleural, peritoneal or bursal. Climate naturally is dealt with from the American standpoint. Artificial pneumothorax is described, but, owing to its limited value, is relegated to the province of the specialist. Tuberculin in his hands, as in those of many other authorities, has proved too uncertain for general use both in diagnosis and treatment on account of the narrow margin of safety. He, therefore, relegates it also to the specialist.

The advice as to the use of X-rays, if followed, will save many mistakes.

Warnings are given as to the differential diagnosis and prognosis, but these are necessarily very briefly treated. The remarks as to the resistance and prevention of tuberculosis should be of value to the practitioner. In view of their important bearing on public health questions, this subject should have been discussed more fully. Stress is laid on the urgent need for control of tuberculosis, concerning as it does every branch of the public health. This control, at times, entails compulsion, for every unfortunate man, woman or child suffering from consumption should not only be taught how to live, but forced to live rightly. The advice as to marriage is timely, but for the wife it is far too hopeful.

After giving the general practitioner advice as to what not to do, the author concludes with a summary.

Although we cannot agree with every statement made, the author has avoided confusion in handling some controversial points by stating what appears to him to be logical.

His experiences and conclusions are those of most sanatorium authorities and, although expressed in a very simple style, are clear and to the point. This little book should be easily understood by the student and general practitioner and form the basis of much valuable work.

[1] Practical Tuberculosis, by Herbert F. Gammons, M.D., with Introduction by J. B. McKnight, M.D.; 1921. St. Louis: C. V. Mosby Company; Post 8vo., pp. 254, with 9 illustrations. Price, $2.00 net.

POST-GRADUATE COURSE IN MELBOURNE.

The Melbourne Permanent Committee for Post-Graduate Work is issuing the following syllabus of the next course. During the fortnight of the course, a central office at the Walter and Eliza Hall Institute for Research in Pathology and Medicine, Melbourne Hospital, will be open from 10 a.m. to noon and from 2 p.m. to 3 p.m. each day.

The fee for the course is three guineas. The Committee ask those intending to join, to forward their names and, in the case of members visiting Melbourne, their addresses in Melbourne during the course not later than October 31, 1921. The fee should be paid on entry. Entries made later than October 31, 1921, will be recognized. If a sufficient number of members desire to attend demonstrations on eye, ear, nose and throat diseases, a special course will be arranged. Members wishing to take part in such a course are asked to communicate with the Honorary Secretary of the Permanent Committee, Medical Society Hall, East Melbourne, not later than October 20, 1921. Copies of the syllabus and forms for entry will be sent on application to the Honorary Secretary, Medical Society Hall, East Melbourne.

Visiting members who hold or have held commissions in the Australian Military Forces or in the Australian Imperial Force, may, if they so desire, be made honorary members of the Naval and Military Club for the period of their stay in Melbourne. Applications for honorary membership should be made to Dr. J. H. Anderson, Department of Anatomy, Medical School, University of Melbourne.

Transport by motor *char-à-banc* will be arranged to the Queen's Memorial Infectious Diseases Hospital at Fairfield, to the mental hospitals and to the Commonwealth Serum Laboratories. Further particulars will be announced at a later date.

List of operations will be posted daily at the central office of the Permanent Committee at the Walter and Eliza Hall Institute and at the several hospitals. In the syllabus where the title of a demonstration is not specifically set forth, a definite announcement will be made at a later date, prior to the commencement of the course, when the nature of the cases available for demonstration is known.

Monday, November 7, 1921—

9.30 a.m.—Dr. J. F. Wilkinson: "The Modern Conception of Diabetes and Its Treatment," at the Melbourne Hospital. Dr. B. Zwar: "Tumours of the Breast," at the Melbourne Hospital.

11.15 a.m.—Mr. B. Kilvington: Surgical Cases in the Wards of the Melbourne Hospital. Dr. Konrad Hiller: Medical Out-Patients at the Melbourne Hospital.

2.15 p.m.—Dr. R. H. Morrison: "Puerperal Sepsis," at the Women's Hospital.
3.30 p.m.—Out-Patients at the Women's Hospital.
8 p.m.—Professor W. Agar, F.R.S.: Inaugural Address on "Heredity," at the Walter and Eliza Hall Institute of Research in Pathology and Medicine, Melbourne Hospital.

Tuesday, November 8, 1921—
9.30 a.m.—Mr. H. B. Devine: Bed-side Clinical Demonstration on Patients to be Operated on on the Following Day at the Saint Vincent's Hospital. Dr. L. S. Latham: Medical Cases in the Wards of the Saint Vincent's Hospital.
11.15 a.m.—Mr. N. McArthur: Gynæcological Cases at the Alfred Hospital. Mr. Gordon Shaw: Surgical Cases at the Alfred Hospital.
2.15 p.m.—Dr. Hume Turnbull: "The Heart in Acute Rheumatism," at the Children's Hospital.
3.30 p.m.—Mr. C. W. B. Littlejohn: Orthopædic Cases at the Children's Hospital.
8 p.m.—Dr. R. H. Morrison: "Cæsarean Section," Meeting of the Victorian Branch of the British Medical Association.

Wednesday, November 9, 1921—
9.30 a.m.—Dr. Cairns Lloyd: "Interference in Obstetric Cases," at the Women's Hospital.
11.15 a.m.—Dr. Wilson and Dr. R. Fowler: Demonstration at the Ante-natal Clinic.
2.15 p.m.—Dr. W. Ernest Jones: "Acute Border-Line Cases," at the Mental Hospital, Royal Park.
8 p.m.—Venereal Diseases Clinic Lonsdale Street.

Thursday, November 10, 1921—
9.30 a.m.—Mr. Murray Morton: Clinical Demonstration of Surgical Cases at the Saint Vincent's Hospital.
11.15 a.m.—Mr. Julian Smith: "Urinary Calculus," Clinical Demonstrations in the Wards of the Saint Vincent's Hospital. Dr. A. J. Brenan: Demonstration on Clinical Pathology at the Saint Vincent's Hospital.
2.15 p.m.—Dr. S. W. Ferguson: "Diarrhœa in Infancy," at the Children's Hospital.
3.30 p.m.—Dr. W. D. G. Upjohn: "Splints, etc.," at the Children's Hospital.

Friday, November 11, 1921—
9.30 a.m.—Dr. S. V. Sewell: "The Accidents of Pulmonary Tuberculosis and Their Management," at the Melbourne Hospital. Mr. W. A. Hailes: "Subphrenic Abscess and Empyema," at the Melbourne Hospital.
11.15 a.m.—Dr. Hume Turnbull: "Chronic Heart Conditions," at the Melbourne Hospital. Mr. Victor Hurley: Surgical Out-Patients at the Melbourne Hospital.
2.15 p.m.—Dr. H. D. Stephens: "Acute Surgical Emergencies in Infancy and Childhood," at the Children's Hospital.
3.30 p.m.—Dr. R. Webster: Pathological Demonstration at the Children's Hospital.
8 p.m.—Venereal Diseases Clinic, Lonsdale Street.

Saturday, November 12, 1921—
9.30 a.m.—Dr. S. W. Patterson: "Renal Efficiency," at the Walter and Eliza Hall Institute of Research in Pathology and Medicine, Melbourne Hospital.

Monday, November 14, 1921—
9.30 a.m.—Dr. A. V. M. Anderson: Medical Cases in the Wards in the Alfred Hospital. Dr. S. S. Argyle: "X-rays," at the Alfred Hospital.
11.15 a.m.—Mr. R. Brown: "Hints on Abdominal Incisions and Herniæ." at the Alfred Hospital. Dr. A. J. Trinca: Clinical Pathology at the Alfred Hospital.
2.15 p.m.—Dr. Tate Sutherland: "On Uterine Bleeding," at the Women's Hospital.
8 p.m.—Venereal Diseases Clinic in Lonsdale Street. Professor R. J. A. Berry: Stewart Lectures, Assembly Hall, Collins Street.

Tuesday, November 15, 1921—
9.30 a.m.—Dr. R. H. Strong: Medical Cases in the Wards of the Melbourne Hospital. Mr. Alan Newton: Surgical Out-Patients at the Melbourne Hospital.
11.15 a.m.—Dr. Frank Andrew: "Rhinology," at the Melbourne Hospital. Dr. S. W. Patterson: Clinical Pathology at the Melbourne Hospital.
2.15 p.m.—Dr. F. V. Scholes: "Recent Advances in the Treatment of Infectious Diseases." with Demonstrations in the Wards of the Queen's Memorial Infectious Diseases Hospital, Fairfield.

Wednesday, November 16, 1921—
9.30 a.m.—Dr. R. N. Wawn: "The Third Stage of Labour, the Puerperium and Its Management," at the Women's Hospital.
11.15 a.m.—Dr. Wilson and Dr. R. Chambers: Demonstration at the Ante-natal Clinic.
2.15 p.m.—Dr. W. J. Penfold: "The Preparations Made in the Laboratories for the Treatment of Summer Diarrhœa at the Commonwealth Serum Laboratories.
8 p.m.—Venereal Diseases Clinic at Lonsdale Street.

Thursday, November 17, 1921—
9.30 a.m.—Dr. R. R. Stawell: Medical Cases at the Melbourne Hospital. Dr. W. D. G. Upjohn: Surgical Out-Patients at the Melbourne Hospital.
11.15 a.m.—Dr. Blois Lawton: "Diseases of the Blood," with Demonstration of Various Blood Films at the Melbourne Hospital. Demonstration in Clinical Pathology.
2.15 p.m.—Dr. W. Kent Hughes: "Flat Foot and Allied Conditions," at the Children's Hospital.
3.30 p.m.—Dr. M. D. Silberberg: "Chronic Lung and Chronic Intestinal Disorders," at the Children's Hospital.

Friday, November 18, 1921—
9.30 a.m.—Dr. Balcombe Quick: "Diagnosis and Treatment of Enlarged Prostate," at the Alfred Hospital. Dr. R. R. Wettenhall: "Treatment of Common Skin Diseases." at the Alfred Hospital.
11.15 a.m.—Dr. M. D. Silberberg: "Treatment of Circulatory Disorders," at the Alfred Hospital. Mr. Fay Maclure: "Management of Deformities of Fractures," at the Alfred Hospital.
2.15 p.m.—Dr. R. L. Forsyth: "Acute Lung Conditions and Asthma in Children," at the Children's Hospital.
3.30 p.m.—Dr. R. M. Downes: "Acute Arthritis and Osteo-Myelitis," at the Children's Hospital.
8 p.m.—Professor R. J. A. Berry: Stewart Lectures, Assembly Hall, Collins Street.

Saturday, November 19, 1921—
9.30 a.m.—Dr. N. Hamilton Fairley: "The Wassermann Test." at the Walter and Eliza Hall Institute for Research in Pathology and Medicine, Melbourne Hospital.

Naval and Military.

APPOINTMENTS.

The following information has been published in the *Commonwealth of Australia Gazette*, No. 72, of September 15, 1921:

Australian Imperial Force.

APPOINTMENTS TERMINATED.

Second Military District.

Lieutenant-Colonel C. Morlet, D.S.O., 27th April, 1920.
Captain R. J. Hunter, 4th October, 1918.
Captain, F. L. MacQueen, 12th February, 1919.
Captain A. R. Fletcher, 20th November, 1918.

Third Military District.

Captain L. P. Brent, 24th July, 1919.
Captain A. E. Taylor, 29th February, 1920.

Fourth Military District.

Captain H. F. Dunstan, 27th December, 1917.

AMENDMENTS.

The notification of the date of the termination of the appointment of Major-General Sir Neville Howse, V.C., K.C.B., K.C.M.G., which appeared in Executive Minute No. 170/1920, promulgated in *Commonwealth of Australia Gazette*, No. 34, dated 8th April, 1920, is amended to read 31st March, 1920.

The notification which appeared in Executive Minute No. 162/1918, promulgated in *Commonwealth of Australia Gazette*, No. 31, dated 7th March, 1918, regarding the appointment of Captain (provisional) F. E. Keane, Australian Army Medical Corps, to be Captain, Australian Imperial Force, is cancelled.

The Medical Journal of Australia.

SATURDAY, SEPTEMBER 24, 1921.

Decidual Reaction in the Ovary.

Specimens of the human ovum at a very early stage of development are not often seen, partly because the opportunity is rarely given to a medical practitioner to search through the material expelled in early abortions and partly because operative intervention in ectopic gestation is seldom undertaken until symptoms threatening the life of the mother appear. Chance at times decrees that an obstetrician can secure a specimen of rare value and if he recognizes the importance of his opportunity, the specimen is handed to a competent embryologist for histological study. In the course of time some of these well preserved ova have gained universal recognition and on them exact information concerning the development of the human embryo has been determined. The Bryce-Teacher embryo and those of Peters, of Arthur Thompson, of Waterston, of d'Eternod, of Johnstone and of Robertson are among the most celebrated. Dr. Joseph Foreman was given the opportunity in 1914 of securing one of these rare specimens and he seized that opportunity. This specimen, one of a very early ovarian pregnancy, was handed to Professor J. T. Wilson, who passed it to Professor John I. Hunter six years later. In the present issue we publish the results of a profound study of this specimen and the deductions which Professor Hunter has drawn from its histological characters. This contribution to embryology is of great value and will attract the attention of every authority throughout the world on account of the masterly manner in which the author has used a chance specimen to solve two or three disputed questions in connexion with his subject. The evidence that the pregnancy was *ab initio* ovarian is so convincing that comment would appear to be superfluous. On the other hand more discussion may arise in regard to his interpretation of certain cells imbedded in strands of fibrin at the outer boundary of the intervillous space. These cells are seen to form a division or barrier between the chorionic vesicle and the tissues of the ovary. Professor Hunter pictures the march of events quite clearly. He assumes that these cells formed a complete boundary of the implantation cavity. Hæmorrage then took place from the intervillous space and ploughed up the barrier zone. The deepest layer became separated from the stroma and the interval was occupied by blood clot. For a short distance the barrier zone of cells can be seen in the section. The cells have all the characters of maternal decidual cells and their distribution corresponds to that of a true decidua which has become disturbed by the blood issuing from the intervillous spaces. In a few situations the cells are still contiguous with the ovarian stroma. It will be admitted that hæmorrhage occurring around the implantation cavity would inevitably lead to the breaking up of a continuous layer of connective tissue cells of maternal origin. The discovery of cells indistinguishable from true decidual cells in the exuded blood between the ovum and the ovarian cavity must be regarded as very strong evidence in favour of the hypothesis that there was originally a complete investment and that this represents an ovarian decidua. The majority of observers have denied the possibility of a decidual reaction in the ovary. It has been assumed that isolated cells or groups of cells scattered through the blood investing the ovum are embryonic in origin. From the appearances in Professor Hunter's specimen and a critical examination of his hypothesis, it may be claimed that he has adduced argument sufficiently convincing to force the acceptance of his thesis.

Professor Hunter has further established for his specimen at least that implantation of the fertilized ovum can take place in the connective tissue bounding the opening of the ruptured follicle. The oldest view of ovarian fœtation is that the Graafian follicle ruptures without the expulsion of the ovum and that the spermatozoa gain entrance through this opening. The assumption that secondary implantation takes place has not been supported by definite histological evidence. It is certainly a more rational explanation of the conditions found in the majority of the specimens that the primary implantation takes place outside the *corpus luteum* and that as the ovum increased in size, it necessarily invades the site of the *corpus luteum*.

Professor Hunter has taken this specimen with him to London and proposes to demonstrate its characters at a meeting of the Royal Society of Medicine. The reception of his arguments will be followed with great interest by all obstetricians and anatomists in the Commonwealth.

INTESTINAL TUBERCULOSIS.

Although the various aspects of pulmonary tuberculosis have been investigated by a multitude of workers, the important subject of intestinal tuberculosis has been comparatively neglected. When it is realized that tuberculosis of the intestines complicates a very considerable proportion of cases of pulmonary tuberculosis, this neglect seems strange. Several years ago Eisenhardt, of the Munich Pathological Institute, performed autopsies on 997 patients who had died of pulmonary tuberculosis, and found ulcerative intestinal lesions in as many as 563. Every practitioner who has worked in a sanatorium for patients with advanced tuberculous disease, is cognizant of the remarkable frequency with which the clinical manifestations of pulmonary tuberculosis merge insidiously into those of intestinal involvement. The worries of cough and expectoration become replaced by those of diarrhœa and abdominal pain. Clinical experience would suggest a greater frequency of intestinal complications than Eisenhardt's figures indicate. Harnan showed that they were present in 68% of over 800 patients in his series of cases and even higher percentages have been described by other observers. The abdominal lesions are said to be due in most instances to the swallowing of sputum laden with tubercle bacilli, but metastasis through the blood stream and lymph channels from pulmonary foci are other possible causes. Curiously enough, the œsophagus and stomach are almost free from infection. The lesions are usually limited to the ileum, caecum and colon and are ovoid areas of caseation growing at right angles to the long axis of the bowel. They ulcerate into the lumen of the intestine and not infrequently the greater part of the ileum and of the large bowel represents the seat of extensive ulceration. The condition is apparently hopeless and its appearance within the scope of clinical recognition is usually a danger signal of the impending end.

There is, however, another form of intestinal tuberculosis and it concerns the surgeon rather than the physician. The profession is indebted to Professor F. M. Caird, of Edinburgh, for the greater part of our knowledge of this condition. This form is associated with an overgrowth rather than a destruction of tissue. It is independent of any active pulmonary involvement, is comparatively rare and causes constipation and intestinal obstruction rather than diarrhœa. Whether the bovine or the human type of tubercle bacillus causes it is not clear, but Shiota has reported twenty-four cases occurring in Japanese who had never drunk cow's milk. Professor Caird has collected an excellent series of 43 cases in patients who were under his care.[1] These probably represent the largest number of cases within the experience of any one practitioner. Nearly twice as many females as males suffered from the condition and it was most common between the ages of twenty and forty. The site of election of the lesion was the ileo-caecal region, but the small intestine and the colon were sometimes involved. Dr. Caird gives a very reasonable explanation of the condition. As a result of infection through the blood stream, tuberculous nodules develope in the submucous and subserous layers. These grow and coalesce, attempting to encircle the lumen of the bowel. If the patient's resistance is low, ulceration and destruction of tissue follow, with a fatal result. When, however, the patient's resistance is strong or the virulence of the organism is low, a great barrier of tissue is thrown up against the advancing danger. A marked fibromatosis puts a check to the spread of the invading organisms. The fibrous overgrowth is extraordinary, frequently simulating carcinoma of the bowel with which it is sometimes confounded. Unfortunately, Nature is not content to keep the organisms in check. She heaps up her lines of defence so assiduously that she fails to respect the function of the bowel. A hyperplastic stenosis ensues, the patient suffers from constipation, colic and vomiting, the ladder-like patterns of intestinal obstruction may be visible on the patient's abdomen and the surgeon is required to intervene.

Professor Caird insists that the treatment of hyperplastic tuberculous stricture of the bowel is that of malignant disease. Whenever possible, free resection of the diseased gut is advisable and mere anastomosis is only to be considered when resection is impracticable. The excision of infected glands is not as imperative as in carcinoma, since the peril of the disease is its physical inroads on the lumen of the bowel rather than its infective nature. Professor Caird has performed 48 operations on 43 patients, with 13 deaths. Twelve of these 13 deaths were in patients who had undergone the operation of resection, but the number on whom a simple short-circuiting operation was performed, was small. Fourteen patients are alive who were operated on two to eighteen years ago. Possibly a minority of patients considered to be suffering from inoperable malignant disease of the ileo-caecal region of the bowel, might really be the subjects of intestinal tuberculosis. A careful inspection of the lesion found at operation might reveal in certain instances a tubercular and not a malignant infiltration and permit a more hopeful form of treatment and a better prognosis.

PITUITARY EXTRACT IN OBSTETRICS.

The use of pituitary extract in obstetrics dates back to the year 1909, when Blair Bell advocated the administration of extract of the posterior lobe of the hypophysis to control *post partum* hæmorrhage and the hæmorrhage associated with *placenta prævia* and the operation of Cæsarean section. With astonishing rapidity this drug came into vogue until to-day it

[1] *Edinburgh Medical Journal*, February, 1921.

forms a part of the equipment of every obstetrician. Unfortunately, the idea became prevalent that it was an innocuous substance which could be used in numerous obstetric conditions with impunity. The fact that it exerted a potent stimulant action on the uterine muscle, suggested other uses than those of control of hæmorrhage. Advocates of its use in primary uterine inertia sprang up and marshalled very convincing evidence of its value. Then followed the practice of using it in normal labour or under conditions when instrumental delivery with forceps was indicated. Forceps were used with justification when the second stage of labour, especially in multiparæ, was unduly prolonged. Instrumental delivery, however, is not favourably considered by popular opinion. In pituitary extract was found a drug which quickly expelled the child. The procedure was simple. A hypodermic injection of the drug was administered and in a short time uterine contractions became strong and the child was born. The advantages claimed for this practice had a strong appeal. The painful process of labour was materially shortened, to the satisfaction of the mother and other members of the household; the obstetrician was enabled to save much time and avoid the tedium of "waiting for Nature"; and the method was apparently safe. The use of pituitary extract in the second and even in the first stage of labour, spread from country to country with amazing rapidity But in its wake followed occasional reports of fatalities due to the drug. Drs. M. P. Rucker and C. C. Haskell have collected from the literature an impressive series of articles on the dangers of pituitary extract.[1] It should be remembered that although medical practitioners show in the descriptions of their experiences a frankness not manifested to the same degree by the members of any other profession, there is a natural disinclination on the part of the obstetrician to publish to the world fatal experiences over which he had some control. Everyone learns by experience, but few care to publish their mistakes, however honestly they were made. The records of disasters, therefore, following the use of pituitary extract, give very serious reason for thought. Almost a score of authors are quoted who speak of fatal consequences of the drug to both mother and child. To the mother the dangers are premature separation of the placenta, tetanic contraction of the uterus, rupture of the uterus, laceration of the cervix, rupture of the perineum and failure of retraction leading to *post partum* hæmorrhage. The gravest of these is rupture of the uterus and carefully recorded cases show that this disaster has occurred when all the apparent indications for the use of the drug were present. Even the most experienced obstetrician will admit that he has occasionally failed to diagnose a malpresentation or to locate an obstruction to the determination of labour. Forceps have the virtue of frequently demonstrating an abnormality when it is found difficult to apply them or impossible to deliver. But pituitary extract is a potent drug over which the obstetrician has no control after he has administered it to the patient. It is accordingly quite conceivable that a disaster may occur when strong contractions of the womb are opposed by an unknown obstruction to delivery. The danger of *post partum* hæmorrhage is possibly explained by the observation of Jellett, that if the extract is given more than an hour before the birth of the fœtus, its action ceases very shortly after birth and there is failure of efficient uterine retraction.

The dangers to the child include the risk of asphyxia and consequent still birth and the occurrence of intracranial hæmorrhage. Drs. Rucker and Haskell were able to examine the brains of twelve still-born infants. In only two instances pituitary extract had been administered to the mother during labour and in both children large sub-dural hæmorrhages had taken place. Of the remaining nine, only one child had a cerebral hæmorrhage and this was intra-ventricular and not sub-dural. These figures yield no definite proof that pituitary extract is a cause of cerebral hæmorrhage, but they are certainly suggestive.

The obstetrician is the necessary attendant of every woman during parturition. But the wise obstetrician is slow to interfere except under the most definite indications. He is content to watch the ministrations of the greatest of all midwives—Nature. When, and that is rarely, Nature fails, the obstetrician must use the skill and care of his art. The use of pituitrin in the first or second stage of labour savours too much of the meddler. The practitioner will be well advised to reserve this drug for use when the third stage of labour is complete.

[1] *Journal of the American Medical Association*, May 21, 1921.

THE WAR MEMORIAL FUND IN VICTORIA.

The following is an additional list of subscribers to the War Memorial Fund of the Victorian Branch of the British Medical Association: G. W. Armstrong, William Begg, F. D. Bird, R. K. Birnie, P. G. Brett, R. J. Bull, F. B. Crawford, C. G. Crowley, C. Cunningham, P. H. Cunningham, Arthur J. Day, G. W. Deravin, E. T. P. Eames, S. C. Fitzpatrick, B. Foster, A. V. R. Hanson, Reg. Howden, F. D. Jermyn, John Kennedy, Alex. Lewers, M. M. Lyons, C. C. T. Magee, W. H. J. Moore, S. J. Newing, John Pollock, R. G. Reid, E. Robertson, Abel Rollaston, G. J. Scantlebury, G. A. Scott, D. E. Stewart, J. S. Thwaites, C. F. Tucker, G. H. Wickens. T. G. Wynne.

QUARANTINE IN NEW GUINEA.

An ordinance has been published in the *Commonwealth of Australia Gazette*, No. 69, of September 1, 1921, dealing with the application of Quarantine by the Commonwealth of Australia in the Territory of New Guinea. The Administrator is empowered to appoint temporary Quarantine officers, to appoint any place to be a temporary Quarantine station, to prescribe measures to prevent the introduction of quarantinable diseases into the Territory and to take other action in this connexion.

NOTICE TO AUTHORS.

In July, 1919, the Directors of the Australasian Medical Publishing Company, Limited, determined that the cost of preparing blocks for the illustration of articles published in *The Medical Journal of Australia* should be borne by the Company. Prior to this date the authors were required to pay for the blocks. We have the accumulation of seven years in our keeping. Authors who require the blocks for which they have paid, are requested to apply for them as soon as possible. It is proposed to destroy all unclaimed blocks on November 1, 1921.

We regret to announce the death of Dr. Alfred Nicholas Chenhall, of Stanmore, Sydney, on September 20, 1921.

Abstracts from Current Medical Literature.

SURGERY.

(132) Diverticula of the Œsophagus.

Arthur Dean Bevan (*Journ. Amer. Med. Assoc.*, January 29, 1921), in a discussion on œsophageal diverticula, demonstrates that pulsion diverticula always occur at the junction of the œsophagus and pharynx, in the mid-line posteriorly. Traction diverticula may occur at any point, but especially in the thorax from cicatricial contraction of some old inflammatory process. Pulsion diverticula vary greatly in size. As they become bigger, swallowing becomes more difficult. The chief risks in the old operation were infection and leakage. In modern operations local anæsthesia is used and an incision made on the left side. The diverticulum must not be injured by toothed forceps when the surgeon pulls it into view. A small diverticulum may be invaginated into the œsophagus. A larger one can be obliterated by invaginating the distal half into the proximal half and obliterating the remainder by longitudinal suture; or the diverticulum may be crushed with a forceps and tied with a silk ligature, its distal end cut off with a cautery and the base invaginated. A rubber tube with an iodoform wick is left in for 24 hours.

(133) Thyreoid Surgery.

G. W. Crile (*Surg., Gynec. and Obstet.*, March, 1921) states that in thyreoid surgery the patient has to be protected against the fatally excessive metabolism which the operation tends to induce, against failure of the weakened myocardium and against acidosis. Protection must be granted against psychic, traumatic, bio-chemical and anæsthetic stimuli and also against the effects of the secretion itself. No preparation, no surgeon, no operating room should be observed by the patient; only the familiar anæsthetist may be seen and the familiar odour of nitrous oxide and oxygen smelt. A weak myocardium leads to sub-oxidation and all forms of anæsthesia also cause it. Gas and oxygen combined with local anæsthesia is the best method; ether is especially damaging. Thyreoid extract should be given to guard against the too sudden withdrawal of thyreoid activity. Post-operative pain, the absorption of wound secretions, infection, fear, worry, and post-operative hypo- or hyper-thyreoidism must be combated.

(134) Peripheral Nerve Suture.

Howard C. Naffziger believes that the main factors in the production of end-to-end suture of nerves are: (*i.*) the free mobilization of the proximal and distal portions, (*ii.*) transposition of the nerve to a shorter route, (*iii.*) favourable posture of the extremity and (*iv.*) gradual lengthening of the nerve by a two-stage operation (*Surg., Gynec. and Obstet.*, March, 1921). For mobilization long incisions and careful dissection are necessary. The transposition to a shorter route is illustrated by the transplanting of the ulnar nerve to the flexor surface at the elbow. Favourable posturing is assisted by the fact that the main nerve trunks lie generally on the protected flexor aspect and flexion of the joint relaxes them. Gradual lengthening is obtained by stitching together the fibrous ends of the distal and proximal nerves, so that they overlap, and then temporarily closing the wound. Posture is maintained with splints and gradual extension then applied. Two months later a second operation restores the continuity of the nerve tissue.

(135) Injury to the Pancreas.

Menzies C. Stuart (*North-West Medicine*, March, 1921) reports a case of subcutaneous injury to the pancreas caused by the steering wheel of a motor car which impinged against the epigastrium. On exploration of the abdomen the lesser sac was found filled with about 240 c.cm. of a brownish, blood-tinged fluid; the entire pancreas was swollen, congested and soft. The peritoneum was abraded in several places, from which there was oozing. Two cigarette drains were employed and the patient made an uninterrupted recovery. Fischer in 1912 reported 41 cases and since then 14 more have been discovered in the literature. Injury to the head and body of the pancreas is more serious than injury to the tail. Fat necrosis is always present after 12 to 24 hours. The hæmorrhage may be appalling. A large pseudo-cyst may develope if the foramen of Winslow becomes closed. Exploration generally reveals the condition for which suture, gauze pressure and drainage are the correct procedures. If the tail is injured, it may be resected. A diabetic diet is advisable.

(136) Carcinoma of the Prostate.

H. C. Bumpus (*Surg., Gynec. and Obstet.*, January, 1921) gives the details of 362 cases of carcinoma of the prostate, 79 of which showed metastasis. Glandular invasion in carcinoma of the prostate may be extensive and in many cases the sciatic pain may be due to pressure from involved lymphatics. More frequently carcinoma is associated with hyperplasia of the prostate. Two types are recognized. In one the enlargement is so slight that metastasis may first call attention to the condition. The gland lacks resilience, but is not stony hard. More commonly the gland may present a varying degree of enlargement and its surface may be elevated at various points by masses described as being "stony hard." The urethral mucosa is broken through only in late stages, hence hæmaturia is not common. The first type is more malignant. X-ray pictures show that the pelvis, spine and femur are the most common sites of metastasis. Pulmonary involvement is rare. Urinary symptoms were absent in 11.5% of all cases characterized by metastases. Hence in all cases of "rheumatic pains" in old men, the possibility of prostatic cancer should be excluded.

(137) Results Following Varicocele Operation.

John Douglas (*Journ. Amer. Med. Assoc.*, March 12, 1921) maintains that the operation for varicocele is frequently followed by hydrocele. Of a total of 106 patients examined some time after operation, 35% of them had developed hydrocele, 4% atrophy of the testicle and 2% had recurrence of the varicocele. The operation should not be performed except in the case of a large varicocele present in a non-neurasthenic patient. In the performance of the operation trauma of the veins and ligature of the spermatic artery and of the artery to the cord should be avoided.

(138) Access to the Heart.

Rudolf Matas (*Medical Record*, April, 1921) enumerates the lessons learnt from war experience in regard to the surgical approaches to the heart. He mentions the modern surgical disregard of the pleura and of the dangers of acute pneumothorax. If, however, there is no injury to the pleura, the exposure of the heart should be carried out, if possible, with the avoidance of a pneumothorax. The Duval-Barasty operation (median thoraco-abdominal pericardiotomy), in which the sternum is split in the mid-line, the diaphragm divided and the thorax opened like a book, has only one objection, *viz.*, its apparent magnitude. It should be reserved for the extraction of foreign bodies in the heart, pericardium or great vessels at the base and should be done in the "cold" stage, when there is no remaining infection and no pneumothorax. The method of Petit de la Villéon consists in searching for the projectile through button-hole openings made in the intercostal spaces. The operation is done under the screen and a long, blunt forceps is used to search with, hence the name "forceps under the screen" applied to the procedure. This method should be reserved for the pericardium, the thick wall of the left ventricle and the thicker cone of the apex.

(139) Drainage in Surgery.

J. Halfpenny (*Canad. Med. Assoc. Journal*, January, 1921) believes that drainage is persisted in, as a rule, too long. Pus under tension is the dangerous condition and not merely the pus itself. Drainage should be made in the most dependent part and the drain, which usually should have only one opening, should be kept in as short a time as possible and should not damage the tissues. Glass tubes were once a prolific cause of fæcal fistula; rubber tubes are much to be preferred. Rubber tissue and gauze drains are equally inefficient and merely prevent the union of the overlying layers till a pus sinus forms. Strands of silkworm gut, but not of catgut, form a good drain for small superficial cavities. A drainage tube should never be placed in contact with a suture line. It is generally best to drain through the operation incision, except in retro-caecal abscess, when drainage through the loin may be justified. After 48 hours a tube merely

drains its own sinus and this is the time to remove it, except in the case of chest conditions, in which the skin is liable to heal before the chest cavity is obliterated.

GYNÆCOLOGY AND OBSTETRICS.

(140) Congenital Absence of Vagina and Uterus with Ectopic Kidney.

David Hadden (*Amer. Journ. of Obstet. and Gynec.*, April, 1921) reports a case of congenital absence of the vagina and uterus in a girl of 18 in whom menstruation had failed to occur. The girl was athletic and well developed. The external female characteristics were true to type and the external genital organs perfectly normal, except for a supposed imperforate hymen. *Per rectum* an organ was felt, occupying the position of the uterus and not dissimilar in form, although about one-third larger than normal. The anterior rectal septum seemed thick enough to warrant a diagnosis of a simple imperforate hymen, though there was no evidence of bulging from retained menstrual fluid. An attempt to dissect out the hymen showed that the vagina was completely absent. Dissection was carried up to the mass in the pelvis, but it was impossible to reach the supposed uterus without injury to the bladder or rectum. On incision of the abdomen it was found that the uterus was absent. It was, however, represented by a slight thickening slightly towards the left of the median line, on what was a well developed, continuous round ligament, extending from one ring to the other, though the loop was longer on the right side, because of the presence of the body which had been palpated *per rectum*. The round ligaments, tubes and ovaries were normal. Both ovaries showed recently ruptured Graafian follicles. The body occupying the position of the uterus was retro-peritoneal. This explained the impossibility of reaching it by the vaginal route. An opening through the peritoneum exposed a rounded kidney with a small notch posteriorly. The renal vessels were short and arose near the bifurcation of the aorta. The ureter was less than 5 cm. in length. The kidney was therefore not a descended movable kidney, but had been originally formed low. The ileo-caecal portion of the bowel was fixed in the right renal fossa and was incapable of being drawn down or reached without excessive traction. The thickened portion of the round ligament that represented the undeveloped uterus was removed. Microscopically it consisted of involuntary muscle, but there was no uterine formation or mucous membrane.

(141) The Treatment of Placenta Prævia.

William B. Thompson (*Bulletin of the Johns Hopkins Hospital*, July, 1921) has analysed the cases of *placenta prævia* which occurred in the first 10,000 patients admitted to the obstetrical ward of the Johns Hopkins Hospital. The figures show an incidence of one case of *placenta prævia* in every group of 137 women confined, or 0.73%. After making various corrections, he concludes that *placenta prævia* does not occur oftener than once in 400 pregnancies. It is, therefore, a comparatively rare complication. It was found that primiparæ were much less liable to *placenta prævia* than multiparæ, only 8 primiparæ being affected, as compared with 58 multiparæ. There was no definite age incidence. The fœtal deaths numbered 48 and the maternal deaths 7, the maternal mortality being 10.6%. The latter figure is high, but is due to the fact that a number of the patients were admitted to the hospital after a good deal of manipulation had been performed. The methods of treatment included Braxton Hicks's version in 2 cases; rupture of the membranes in 2; Cæsarean section in 2; manual dilatation of the cervix in 15; and dilatation with a rubber bag in 36. One patient died undelivered and 8 were admitted in the second stage of labour. Manual dilatation has been abandoned because the experience is that it is usually accomplished at the expense of deep cervical tears, which require immediate repair. In recent years the routine treatment has been the use of a rubber bag. The most satisfactory type is the reinforced bag of Champetier de Ribes. In 36 cases in which this treatment was carried out, there were no maternal deaths. It has, therefore, been preferred to Cæsarean section. The writer's objections to treatment by Cæsarean section are that many of the patients are admitted in an exsanguinated condition and after subjection to various vaginal manipulations, factors which make them poor subjects for operation. Further, Cæsarean section weakens the uterus. To the argument that the operation affords better prospects to the child, he replies that the child has little chance of life in any case.

(142) A Method of Inducing Labour.

Gibbon Fitzgibbon (*Dublin Journal of Medical Science*, June, 1921) describes his method of inducing labour. In place of gum elastic bougies which on boiling frequently become soft and sticky, he uses a No. 22 stomach tube, 76 cm. long. The tube should be of soft rubber. Hard tubes are not suitable. The tube is thoroughly boiled. After cleaning and douching the vulva and vagina, the obstetrician introduces a posterior speculum. The anterior lip of the cervix is held with forceps. The end of the tube is then passed into the cervix and it is gradually pushed in until it is completely introduced into the uterus. It will coil itself in front of the presenting part in rings about 7.5 cm. in diameter and may be left *in situ* until labour begins and is well established. When the *os* is half dilated the tube may easily be removed. When introducing the tube, the obstetrician may find that after about 10 cm. are introduced the tube refuses to enter further. Should this difficulty occur, the operator should give the tube a slight twist on its long axis while pressing inwards or changing the direction of pressure. He should not withdraw the portion already in. It will be found that the tube will begin entering afresh. It is because the tube does not bend at first that the difficulty arises. Once the tube bends, it continues to do so and coils itself quite easily. The advantages of a stomach tube over bougies are: (*i.*) There are greater ease and certainty of sterilization. (*ii.*) There is practically no risk of rupturing the membranes. (*iii.*) In the uterus the tube becomes confined to the lower uterine segment and there is thus no possibility of disturbing the placenta.

(143) Studies of the Results of Oöphorectomy.

Harold Bailey (*Amer. Journ. of Obstet. and Gynec.*, July, 1921) has made certain studies on the results of oöphorectomy. A study of the metabolism following oöphorectomy showed a reduction both of the oxygen consumed and the carbon dioxide eliminated by the patient. The maximum reduction occurs two or three months after the operation, when atrophic changes have probably occurred in the uterus. The experimental work must be considered inconclusive, since it fails to demonstrate a direct effect on the energy metabolism of the cell by an ovarian secretion. Experiments conducted with a view to ascertaining the condition of the ovary after hysterectomy, show that in young animals the ovarian development goes on in a normal manner. Experiments on adult animals indicate that no ovarian change can be demonstrated till three or four months have elapsed since hysterectomy was performed. Clinical experience shows that the menopause ensues if the uterus is entirely removed and the ovaries left in position; and that if a portion of the uterine mucosa is spared so that menstruation may occur, the menopause does not result. Transplantation of the ovary will not relieve the symptoms of the menopause, unless the uterus, partly or wholly, remains. W. J. Mayo has stated that the preservation of the reproductive function is of the first importance and that myomectomy is preferable to hysterectomy in women below 45 years of age.

(144) Treatment with Radium.

E. W. Titus reports (*Amer. Journ. of Obstet. and Gynec.*, April, 1921) an analysis of 201 cases of malignant conditions and non-malignant uterine hæmorrhages in which treatment by radium was carried out. For carcinoma of the cervix radium has proved itself the most dependable palliative in advanced cases. In selected cases of *myoma uteri* it is a strong rival of surgery. In large tumours requiring operation it will control hæmorrhage and allow the operation to be delayed until there is an improvement in health. In intractable menorrhagia of young women it has solved a difficult problem. Mortality and morbidity in gynæcological practice have been materially reduced by the use of radium. Its power to prolong life gives it an economic value.

British Medical Association News.

SCIENTIFIC.

A meeting of the New South Wales Branch was held at the B.M.A. Building, 30-34 Elizabeth Street, Sydney, on June 24, 1921, Dr. Fourness Barrington, the President, in the chair.

Dr. R. B. Wade presented a patient on behalf of Dr. J. S. Purdy, to illustrate an interesting phenomenon of muscle contraction resulting from injury to the left forearm. Dr. Wade explained that eighteen years previously the patient had had his arm crushed up and torn by machinery. The injury was so great that the surgeon in charge of him determined that an amputation was necessary. The patient, however, refused to submit. In the course of time healing took place and a perfect functional result was obtained. When the patient closed his fist and contracted all the muscles of his forearm, a wave of contraction travelled from the central end of the *extensor communis digitorum* downwards apparently within the sheath almost to the level of the wrist. At the distal end a small muscular hernia was protruded after the wave had travelled its full length. Dr. Wade considered that the wave was due to pressure acting on encysted fluid within the sheath. He asked those who had examined the patient to express an opinion as to the nature of the phenomenon.

Dr. N. D. Royle did not agree with Dr. Wade. He was of opinion that the relaxing muscle produced the rolling effect of the wave. He had seen similar conditions in other persons. At the distal end there was obviously a defect in the sheath through which muscular tissue was herniated.

Dr. H. R. G. Poate read a paper on tendon transplantation, illustrated by lantern slides projected on the screen. This article will be published in next week's issue.

Dr. Lennox G. Teece congratulated Dr. Poate on his excellent *résumé* of the present position of tendon transplantation. He thought that Dr. Poate had produced the most eloquent evidence of the value of tendon transplantation, more especially in cases of injury involving the musculo-spiral nerve. He thought that the time had arrived when these operations should become standardized. Steps should be taken to retrieve the many cases of wrist drop in patients whose disability had been allowed to remain uncorrected. It was, he thought, very important that the established technique should be adhered to in these cases. The tendons should be sutured under sufficient tension to guarantee adequate function. It was not sufficient merely to take up the slack. The tendon should be pulled on to the limit of its elasticity. The assistant should hold the part in the fully corrected position until the last stitch had been inserted and the splint applied. Dr. Teece was very emphatic in maintaining that the nurse should not be allowed to remove or to re-apply the splint. When this was necessary, the surgeon should do it himself.

Turning to the question of tendon transplantation in infantile paralysis, he agreed with Dr. Poate that the results were far less satisfactory than those of the standardized operations. It was often necessary to have recourse to arthrodesis and other supporting manœuvres in these cases.

Dr. N. D. Royle discussed the question of the transference of the transplanted tendon into the sheath of the receiving muscle. He held that the advantage of providing an intact sheath for the tendon in its new position was very great indeed. In the case of the sheath of the *tibialis anterior*, he stated that it could contain two tendons with advantage.

Dr. R. B. Wade congratulated Dr. Poate on the very excellent results he had obtained. They were results of which anyone might be proud. He was satisfied that tendon transplantation in the majority of cases gave much better results for nerve injuries than for infantile paralysis. In the former the innervation of the tendons was well preserved, whereas in infantile paralysis there was some weakening of all the muscles and even of the transferred tendons. Dr. Teece had wisely referred to the standardization of technique. He, the speaker, held that the bad results in infantile paralysis were due, to some extent, to the haphazard selection of tendons and also to the want of care in applying the proper technique.

Dr. P. Fiaschi, O.B.E., questioned the wisdom of a wide application of tendon transplantation. He had received two severe injuries to his hand during war service. He had not submitted to any special form of treatment. It seemed as though the constant use of a 100 c.cm. urethral syringe had sufficed to restore complete function.

In his reply, Dr. Poate stated that he agreed with Dr. Teece in regard to the necessity of employing full tension of the tendon being transplanted. He did not use the expedient of passing tendons through the subcutaneous tissue, save in the case of the ankle joint.

Dr. D. J. Glissan presented a patient with *talipes equinus* due to the retraction of a scar by a pedicle graft. The patient had been wounded on October 4, 1917, and was first seen by Dr. Glissan in September, 1919. He presented a racket-shaped scar situated in the middle and lower thirds of the posterior aspect of the left leg. The handle of the racket was represented by a linear superficial scar, while the body was represented by a dense area of scar tissue 9 cm. in depth and 5 cm. in width, attached to the *tendo Achillis*. In this area there was a centrally-placed ulcer 1.5 cm. by 2.5 cm., which had remained unhealed (see Figure I.). Two attempts at Thiersch grafting had been

FIGURE I.

made in September, 1918, but both had been unsuccessful. The involvement of the *tendo Achillis* had produced the equinus deformity of 45° short of full dorsi-flexion. Rest in bed with treatment, including antiseptic dressings, strapping and ionization with sodium chloride and potassium iodide had failed after one month to procure healing. Ionization had been tried at the close of the preliminary treatment for the purpose of sterilizing the walls and the base of the ulcer and the subjacent tissues.

The site from which the graft was to be taken was selected and the patient was placed in the required position for increasing periods spread over several days prior to operation, in order to accustom him to the constrained position.

In November, 1920, the whole scar was resected and separated from the *tendo Achillis*, and all traces of scar tissue down to normal skin and the subcutaneous and deep tissues were removed. The graft was measured out with dividers and raised from the front of the opposite thigh in its lower third. The fatty layer was split in a plane of natural cleavage to avoid disturbance of the blood supply and to leave a layer on the *fascia lata*. A sheet of thin boiled rubber was placed over the raw surface and loosely sutured in position. The leg was placed in position and the graft sutured on three sides to the skin of the leg. A few moderately loose sutures were inserted so as to keep the under surface of the graft closely applied to the surface of the leg. The left limb was fixed in a position with bandages and a plaster knee-cap was applied to prevent extension. No dressings other than a layer or two of gauze were used. This prevented all pressure on the graft and allowed it to be continuously watched for any sign of circulatory embarrassment through tension in the base. On the fifth day the serous discharge from the raw surface of the thigh beneath the leg became slightly purulent. A Carrel tube was then run in between the base of the flap and the thigh and Carrel-Dakin solution used to control the infection. The graft united on the three sides without incident and on the fifteenth day the base was divided and sutured to the remaining edge of the leg area after the edge of the latter and the under-surface of the base of the flap had been gently freshened. The healing of this edge was slower than that of the other three sides. A small gangrenous patch appeared at the upper and outer angle; this patch separated under antiseptic treatment. The whole graft was united in its new position in five weeks. The raw surface in front of the thigh was treated for 48 hours with mild antiseptic foments and was then covered as far as possible by sliding flaps from each side. An area measuring about 2.5 cm. in width was left to granulate, the knee being flexed gradually to prevent any limitation of this movement. The *tendo Achillis* had been divided at the first operation and at the second the foot was fixed in dorsi-flexion to just beyond a right angle.

The patient had been back at his work for seven or eight months and had had no trouble either with the graft or with the area in the thigh. He had full function at the ankle-joint. Figure II. shows the condition of the thigh before

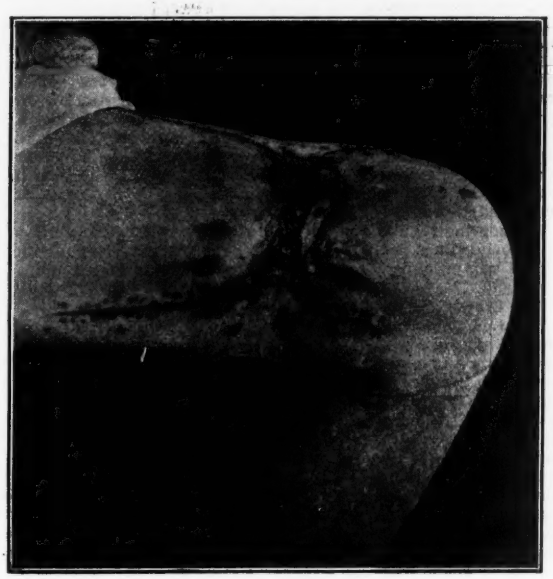

FIGURE II..

the area had closed over. The granulations were in need of a little blue-stone at the time. In conclusion, Dr. Glissan stated that he reported the case as a typical instance of the value of a pedicle graft in the treatment of scar tissue involving important tendons.

Dr. Glissan then read a paper entitled "Limitation of Movement at the Metacarpo-phalangeal Joints: Its Causes and Treatment." This article will be published in next week's issue.

Dr. Lennox G. Teece congratulated Dr. Glissan on his useful contribution to a purely orthopædic problem. Splints had proved to be very efficient in relieving the stiffness following injury of the metacarpo-phalangeal joints. Passive movements carried out under anæsthesia were, in his opinion, useful in cases of less severe disability when the limitation of movement was only of the last 10° or 20° of flexion. The hand should then be put up in plaster, in full flexion of the interphalangeal and metacarpo-phalangeal joints. This position should be maintained for a week. Active and passive movements and massage should then be applied. In severe cases this treatment could not be carried out on account of the inflammatory reaction that would follow. He expressed the opinion that the splint should be applied immediately after the operation. A well-made plaster case with felt wedges should be as useful as Lewis's splint. It would be interesting to watch the results obtained with the aid of Dr. Glissan's method.

Dr. N. D. Royle referred to the splint which had been used at Randwick when Dr. Wade first took charge of the department. There was no splint available and consequently they had to devise one. It was very like the splint described in the *British Journal of Surgery*, of April, 1921, referred to by Dr. Teece. He was of the opinion that Dr. Glissan's splint was excellent. A good substitute for the "racket" splint could be made with a piece of twisted wire extended beyond the fingers and taking a bearing across the palm distal to the thumb and pisiform bone.

Dr. R. B. Wade spoke of the experience gained at Randwick. He agreed with the speakers who had stated that Lewis's joint splint was probably superior to any they had yet applied. They had not been able with other methods to gain as much extension nor as full a use of the hand as was desirable.

Dr. Glissan held that with the Lewis splint they could apply flexion and traction concomitantly in a logical manner. He agreed with Dr. Teece to a certain extent in regard to the employment of forced movements under an anæsthetic in very mild cases.

Professor John I. Hunter gave a demonstration on a specimen of early ovarian pregnancy (see page 233).

Dr. Ralph Worrall tendered his sincere congratulations to Professor Hunter on his magnificent demonstration. His arguments were most convincing. He expressed the hope that Professor Hunter would be able to repeat the demonstration before the Royal Society of Medicine in London. Dr. Worrall referred to an article in the June of *Surgery, Gynecology and Obstetrics*, in which there was a report of an interesting case and a summarl of 82 published cases of ovarian pregnancy. He, the speaker, had met with one case, in a patient sent him by Dr. G. Bell.

Dr. F. A. Maguire, D.S.O., added his congratulations to Professor Hunter for his very clear and lucid demonstration. He said that it represented the result of six months' continuous research. He had proved that it was a case of genuine ovarian pregnancy and that the cells in the stroma were genuine decidual cells.

Dr. Fourness Barrington expressed his admiration of the manner in which Professor Hunter had presented his data and of the excellent lantern slides with which he had worked out his thesis. He reminded his audience that the first observer to describe a true decidual reaction in the ovary was Lockyer. Up to the time when he had published his evidence in the *Proceedings of the Royal Society of Medicine* in the year 1917, there were only 41 cases recorded. These cases had all been summarized, the most remarkable being that of McCann in which a four and a half months' fœtus had been found in an ovarian cyst. Only two of these cases had gone on to full term. No multiple pregnancies of the ovary had been recorded. Twin tubal pregnancies occurred fairly often and quintuplets had been described by Treub, of Amsterdam. The rare form of ectopic ges-

tation was simultaneous pregnancies in both tubes. In conclusion he expressed to Professor Hunter the thanks of the Branch for his admirable and important communication which was calculated to become historical.

Professor Hunter replied briefly.

MEDICO-POLITICAL.

A meeting of the Victorian Branch was held in the Pathology Lecture Room, Melbourne Hospital, on September 7, 1921, Mr. Basil Kilvington, the President, in the chair.

Mr. Basil Kilvington reported to the meeting that the Federal Committee of the British Medical Association in Australia had accepted the invitation of the Victorian Branch to hold the first Australasian Medical Congress (British Medical Association) in Melbourne in 1923. The Federal Committee had requested the Victorian Branch to nominate the President of the Congress. The Council had unanimously decided to recommend the nomination of Mr. G. A. Syme. He, therefore, had very great pleasure in moving that Mr. G. A. Syme be nominated for the position of President of the Congress. The motion was seconded by Dr. J. F. Wilkinson and carried without dissent.

Mr. G. A. Syme expressed his keen appreciation of the honour conferred upon him. It had been said that election to the office of President of Congress was the highest honour in the power of the medical profession to bestow. He was deeply sensible of the obligations attaching to that office. If the nomination were accepted by the Federal Committee and he were elected, he would look for the co-operation of the Branch to make the first British Medical Association Congress a success.

Dr. R. R. Stawell moved:

> That ships' surgeons shall be paid at the rate of £25 per month, with the right of charging fees for attendance on passengers.

He explained that this resolution had been adopted by the Federal Committee and submitted to the Branches for consideration.

The motion was seconded by Dr. L. S. Latham and carried.

Dr. W. Ernest Jones moved:

> That from the members of the Victorian Branch of the British Medical Association a section be formed which shall be called the Section of Neurology and Psychiatry.

He said that he had no doubt but that a large number of the members would realize the importance of the step proposed. War experience had demonstrated the importance of psychology. He claimed that the best means for those interested in this branch of medicine to further its advance was by the formation of a section. He said that they probably did not realize that there was a lay psychology abroad encroaching on the prerogatives of the medical profession. Unless medical practitioners devoted themselves seriously to the study of disorders of the mind, this undesirable element would grow. He entered a plea for more work in psychiatry at the general hospitals and advocated the establishment of psychiatric clinics. It was only in this way that the teaching of neurology and psychiatry could be placed on a sound basis. He had laboured for a long time in an endeavour to promote the institution of psychiatric clinics. At last there seemed to be some prospect of a realization of the objective.

The motion was seconded by Dr. R. C. Withington and was carried unanimously.

A meeting if the Western Australian Branch was held on August 17, 1921, at the Perth Public Hospital, Dr. G. W. Barber, C.B., C.M.G., D.S.O., the President, in the chair.

Dr. W. Trethowan moved that the attention of members be drawn to the Western Australian Branch of the Public Health Association of Australasia by the insertion of a reference to this organization in the notice papers for the next meeting of the Branch and by the enclosure of the circular of the Public Health Association. The motion was seconded by Dr. J. Dale, O.B.E., and carried.

Dr. W. Trethowan moved that the following resolution of the Federal Committee be adopted by the Branch:

> That the Federal Committee recommend the Branches to adopt resolutions requiring ships' surgeons to be paid at the rate of £25 per month, with the right of charging fees for attendance on passengers.

Dr. D. E. Williams seconded the motion, which was carried.

The undermentioned have been elected members of the New South Wales Branch:

C. J. B. Armstrong, Esq., M.B., Ch.M., 1921 (Univ. Sydney), Sydney Hospital.

A. S. Hughes, Esq., L.R.C.P., L.R.C.S., Edin., L.R.F.P.S., Glasg., 1918, C/o. Commercial Banking Company of Sydney, George Street, Sydney.

L. D. Taylor, Esq., M.B., Ch.M., 1920 (Univ. Sydney), Royal Alexandra Hospital for Children, Camperdown.

E. Bruce Smith, Esq., M.B., Ch.M., 1920 (Univ. Sydney), Paterson.

Miss Violet Gertrude Eddy, M.B., B.S., 1921 (Univ. Melb.), Melbourne Hospital, has been elected a member of the Victorian Branch.

Archibald Primrose Anderson-Stuart, Esq., M.B., Ch.M., 1921 (Univ. Syd.), Sydney, has been nominated for election as a member of the New South Wales Branch.

OUTBREAK OF PLAGUE IN BRISBANE.

Statement of Director-General of Health.

The following statement concerning the outbreak of plague in Brisbane has been supplied to us at our request by the Director-General of Health for the Commonwealth.

On August 23, 1921, a fatal case of plague was reported to the State Health Department of Queensland. Subsequent to this five rats were found in produce stores in both north and south Brisbane, which, on examination, proved to be plague-infected.

Measures were taken by the State Health Department during this period to destroy rats in the infected areas.

No public notification was made of the occurrence and the Commonwealth Health Department was not notified until September 13, 1921. Since that date other plague-infected rats have been found, one being at a point of considerable distance from the points at which the previously infected rats were discovered.

It is understood that the control of rats in Brisbane is proceeding and, in the meantime, the Commonwealth Health Department, under the *Quarantine Act*, has instituted a system of outward inspection of all cargo with the rejection of any liable to be rat infested and the inspection on arrival of any vessel from Brisbane at any other Australian port, which includes both medical examination of passengers and the discharge of cargo under close supervision in order to prevent the landing of any package which has been broached by rats. The vessel, after discharge of cargo, is fumigated thoroughly throughout.

The routine regulations, including the placing of rat guards on mooring lines, keeping port holes on the wharf side shut and of rat proofing all food stores, are being insisted upon.

Statement by Commissioner of Public Health.

Dr. J. I. Moore, the Commissioner of Public Health of Queensland, has supplied us with the following statement concerning the outbreak.

A rather sudden death of a man occurred in Brisbane on August 23, 1921. Specimens submitted after the *post mortem* examination were inoculated into a guinea-pig. The guinea-pig was found dead on August 29. The spleen showed bacteriologically *Bacillus pestis*. Further inoculations were were made and a definite report was received from the laboratory on September 3, 1921. As the case was suspicious from the outset, precautions were taken. The body was buried in lime. All "contacts" were visited and the house was disinfected. Before the case was reported arrangements had been made for an active crusade against rodents in both north and south Brisbane. Infected rats have been obtained since August 30. The killing of rats has been neglected for some years by the responsible authority, consequently it is difficult to say if the importation of an infected rat is of recent date. The Government and the

various local authorities have increased their respective hunting gangs to the number of 90 men. It is hoped that the infected areas will be thoroughly cleaned out. No further human case has been reported to date (September 19, 1921).

Correspondence.

IS ETHYL CHLORIDE SAFE?

Sir: I have just returned after an absence of a few months from Victoria and was somewhat alarmed last night upon reading a letter of Dr. Kitchen in the issue of September 3, 1921, of your valuable *Journal*, in which he details three fatalities within recent months at the Melbourne Hospital during the administration of ethyl chloride, and in which he questions the safety of this anæsthetic agent.

That ethyl chloride is not free from danger as an anæsthetic has both been demonstrated by experimental research and by the reports of clinical fatalities which have occurred at various times. But a great abundance of clinical usage without fatality equally demonstrates that it can be used safely and that it is not lethal to the extent that Dr. Kitchen's report would lead readers to infer.

It has been shown experimentally that ethyl chloride has the same depressing effect upon the myocardium and causes the same exaltation of excitability of the inhibitory mechanism of the heart as chloroform, the difference between them being just one of difference of degree of intensity. Clinically interpreted this means that the administrator has only to give enough ethyl chloride to get the same lethal effects as are produced by chloroform. It can be accepted that 10% concentration of ethyl chloride vapour produces the same pharmacological results as 35% concentration of chloroform vapour, the 1:3 ratio being that of the number of atoms of chlorine in their respective molecules.

If inexperienced administators get the impression that ethyl chloride is free or relatively free from toxicity, fatalities will surely follow. I have always taught that it is easily possible to administer ethyl chloride vapour in 10% concentration even from the open mask owing to its high volatility and that the best way to obviate overwhelming a patient with this agent was to cease the administration or when used in the ethyl chloride-ether sequence to swamp with ether that which is on the mask, before the corneal reflex was abolished.

I think that, in view of the facts reported, Dr. Kitchen has very wisely raised an alarm.

I would refer those desirous of more details of the pharmacology of ethyl chloride to a research of mine published in the *Transactions of the Royal Society* about 16 years ago, or to a more recent but abridged reproduction of it in the *American Year Book of Anæsthesia and Analgesia*, 1917-1918.

Yours, etc.,

E. H. EMBLEY, M.D.,

Consulting Anæsthetist to the Melbourne Hospital.

Seville, Victoria.

September 16, 1921.

HEAT LOSS DURING ANÆSTHESIA.

Sir: I wish to return thanks to Professor Osborne for his note on my paper, but I venture to think that if he has another look at it, he will see that as to one part of it he has made a criticism that is not apposite and that he has not quite seized my point of view. I professed (as the title shows) only to deal with heat loss and I dealt only with that, which is quite another thing to loss of temperature. If I had professed to deal with loss of temperature, his criticism that I had omitted to consider variation of heat production would have been relevant and I should have deserved the correction. But it is a case of cross purposes. The term he used and the subject he dealt with in his letter was "loss of temperature." The term I used and the subject I dealt with in my paper was loss of heat. The factor of heat production comes into consideration in connexion with his subject, because it is an important factor in the determination of temperature. But this, as I have said, is Professor Osborne's subject and he is preoccupied with that train of thought throughout his letter. I am sure that on further consideration he will see the difference.

As a matter of fact this subject of heat production during anæsthesia has not been overlooked. I have for long been keenly anxious to measure it and think I see a way of doing it successfully. But in this work there are no financial returns to be expected, although much trouble and expense may be incurred. I certainly do not consider myself called upon to incur a great deal of private and wholly unremunerative expense for apparatus. I think I might be able to get some results if other people—the class to get all the benefit—will do a bit and shoulder the expense. I think that something between £100 and £150 might be sufficient, though much more could be usefully employed.

Perhaps some reader may know a patient who has received some benefit from a surgical operation under anæsthesia, and who would be glad to provide the cost of apparatus.

I suppose that, failing this, the work will be done by Americans, financed by one of their wealthy research endowments.

Yours, etc.,

C. E. CORLETTE.

Sydney, September 17, 1921.

ST. LUKE'S PRIVATE HOSPITAL, SYDNEY.

St. Luke's Hospital is in urgent need of £20,000; £5,000 is to pay off the debt (apart from debentures) on the property and the balance is for additions and extensions.

The primary object of the hospital is the establishment of as many beds as possible at £2 2s. each for patients who cannot pay the usual fees of a private hospital and who refrain from using a public hospital. The success already achieved is most encouraging. This serves to emphasize the necessity for wiping off the debt and extending in order to meet the increasing demands for these cheap beds. St. Luke's is not run for profit. Under the constitution, if any profits are made, they have to go in the furtherance of the scheme.

Patients are taken irrespective of creed. The Directors, who are honorary, and the nursing staff are members of the Church of England.

The Roman Catholic Church has for so many years been doing a great work for the community in the excellent hospitals it has run and it is time the Church of England did a share of such work.

To support St. Luke's is, therefore, a solemn duty and we ask all members of the medical profession, as well as all Anglican church people to help us in our efforts to advance the Hospital.

We want 10 people to give or collect £100 (3 have already done so).

We want 20 people to give or collect £50 (2 have already done so).

We want 200 people to give or collect £10.

We want 500 people to give or collect £5.

We want 1,000 people to give or collect £2.

We want 4,000 people to give or collect £1.

We want 5,000 people to give or collect 10s.

We want 20,000 people to give or collect 5s.

May those who have been ill, help St. Luke's out of sympathy. May those who have not been ill, help St. Luke's out of gratitude.

Please send donations (and sums less than the above are very welcome) to—

Yours, etc.,

F. de V. LAMB,

Organizing Secretary, St. Luke's Hospital.

16 Spring Street, Sydney,

September 19, 1921.

Proceedings of the Australian Medical Boards.

QUEENSLAND.

The undermentioned have been registered under the provisions of *The Medical Act, 1867*, as duly qualified medical practitioners:

Gill, George Frederick, M.R.C.S., Eng., L.R.C.P., Lond., 1902, Mount Perry.

MacGillicuddy, Reginald Patrick, M.B., B.S., Univ. Melb., 1917, Brisbane.
Mason, George William, M.B., Univ. Syd., 1911, Townsville.
McShane, Cletus, M.B., B.S., Univ. Melb., 1910, Springsure.
McSweeney, Daniel Christopher, M.B., B.S., Univ. Melb., 1920, Children's Hospital.
Nette, William Henry, M.B., Ch.M., Univ. Syd., 1921, Brisbane Hospital.
Purves, Charles William, L.R.C.P., L.R.C.S., Edin., 1880, Esk.
Samuelson, Gerald Septimus, M.B., Ch.M., Univ. Edin., 1888, Ayr.
Smith, Edna Lillian, M.B., Ch.M., Univ. Syd., 1920, Brisbane Hospital.
Steel, William Hart, M.B., Ch.B., Univ. Glasg., 1898, Brisbane.
Weaver, Ralph Edward, M.B., Ch.M., Univ. Syd., 1920, Mater Misericordiæ Hospital.
Wyper, Jessie Jardine, M.B., Ch.M., Univ. Syd., 1920, Brisbane Hospital.

Medical Appointments.

During the absence of Dr. W. H. Jamison (B.M.A.), Dr. H. L. Hawthorne (B.M.A.) has been appointed Acting Visiting Medical Officer to the Jubilee Sanatorium at Dalby, Queensland.

Re-appointments to the Advisory Committee under the *Food and Drugs Act, 1908*, of South Australia, include Dr. W. Ramsay Smith (Chairman of the Central Board of Health), Professor E. H. Rennie (Adelaide University), and Dr. E. A. Johnson (B.M.A.).

It is announced that Dr. H. N. Zimmer (B.M.A.) has been appointed Public Vaccinator at Mildura, Dr. T. M. Hendry (B.M.A.) at Coroke and Dr. J. C. Craig (B.M.A.) at Edenhope and Aspley, Victoria.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xviii.

Ipswich Hospital, Queensland: Junior Medical Officer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Manchester Unity Independent Order of Oddfellows. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington New Zealand.

Diary for the Month.

Sept. 28.—Vic. Branch, B.M.A.: Council.
Sept. 29.—S. Aust. Branch, B.M.A..
Sept. 30.—N.S.W. Branch, B.M.A.: Election of two members to Federal Committee.
Sept. 30.—Vic. Branch, B.M.A.: Election of two members to the Federal Committee.
Oct. 1.—Vic. Branch, B.M.A.: Election of Representatives of Divisions.
Oct. 4.—N.S.W. Branch, B.M.A., Council (Quarterly).
Oct. 5.—Vic. Branch, B.M.A..
Oct. 7.—Q. Branch, B.M.A..
Oct. 7.—N.S.W. Branch, B.M.A.: Annual Meeting of Delegates of Local Associations with the Council (First Day).
Oct. 8.—N.S.W. Branch, B.M.A.: Annual Meeting of Delegates of Local Associations with the Council (Second Day).
Oct. 11.—Tas. Branch, B.M.A..
Oct. 11.—N.S.W. Branch, B.M.A.: Ethics Committee.
Oct. 12.—Melb. Pædiatric Society (Vic.).
Oct. 13.—Vic. Branch, B.M.A., Council.
Oct. 13.—Brisbane Hospital Clinical Society.
Oct. 14.—N.S.W. Branch, B.M.A., Clinical.
Oct. 14.—Q. Branch, B.M.A., Council.
Oct. 14.—S. Aust. Branch, B.M.A., Council.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney. (Telephone: B. 4635.)